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THE PSYCHOLOGY OF CHILD DEVELOPMENT

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The Psychology *of* Child Development

WITH AN INTRODUCTION BY
JOHN DEWEY

IRVING KING

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TO

F. B. K.

TO THE INFLUENCE OF WHOSE TRANSITORY LIFE
THESE PAGES ARE DUE

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NOTE TO THE SECOND EDITION.

In preparing this edition I have availed myself of the criticisms and suggestions of many who have kindly offered them. These have in most cases been regarding verbal alterations and the clearing up of the ambiguity in certain passages. I shall be grateful for suggestions of any kind from those who use or read the book in the future.

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PREFACE

These studies are an outgrowth of work begun in a seminar in "Mental Development" conducted by Professor Dewey in 1901-2. Their aim is to present a consistent and intelligible outline of the mental development of the child from the standpoint of mental function. They do not pretend to try to cover, even in a general way, all the aspects of child-psychology, but rather to outline a point of view from which it is believed a good deal of the chaotic material of child-study will assume a new significance.

Child-study has fallen into disrepute, not because it is of slight importance to the educator, but because it has been pursued partly in an unscientific fashion and partly with the presuppositions of an out-of-date psychology, which dealt with "powers" rather than the life as a whole. These pages emphasize the point that the attempt to study isolated elements of the child's life is radically unscientific; that we must have as nearly as possible the *complete setting* of an act before we are entitled to say what it is or what it means.

The first chapters on the early development of

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the child are of fundamental importance. It is usually presumed that, if the teacher needs any child-psychology at all, it is only that of the years covered by the school period. But if experience is a continuous affair, she surely cannot hope to gain an adequate comprehension of it by studying isolated portions of it only. It is particularly important that the teacher should see clearly that the mental functions can be rightly understood only in the broader setting of activity which gives rise to them. These points cannot be clearly comprehended except through a study of the earliest mental development. Hence the teacher cannot afford to neglect the study of the earliest phases of mental growth.

We take it for granted that the prime prerequisite for successful teaching is the interpretation of the child, the discovery of what the things the child feels and does can mean to him with his relatively undifferentiated experience, not what they would mean to an adult with a broader and more highly specialized form of life. We grant that such a knowledge does not furnish a rule-of-thumb guide for the teacher who faces concrete situations and problems, but why should it be expected to do so? It furnishes a knowledge of *what* she is dealing with, and that should certainly be fundamental in all methods of instruction.

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We believe there are two causes for teachers as a whole failing to profit by the study of psychology: first, they go to it expecting to get something that it cannot give, and hence they fail to get what it really can give them; in the second place, they go to the wrong sort of a psychology, or rather they have been furnished by educators with the wrong sort. They have been compelled to study the mechanism of mental contents in adult life, rather than the mechanism of mental functions developing within complex social situations. In other words, the psychology of the most value to the teacher is the psychology of the unfolding of experience that comes from the interaction of mind with mind.

As we have said, many aspects of child-psychology are left untouched in such a preliminary statement as this book attempts—aspects that are none the less important because they are here neglected. Among these are the problems of physical growth and the great subject of rhythm, so closely allied with the physical organism and its method of development; the questions regarding disease, mental and physical abnormalities, and the whole psychology of defectives. All these problems, and many others, must be taken into account in the complete working out of the child's experience. Even the mental functions

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here described have been treated in the barest outline. But scarcely more can be done until we have an observational literature built up from a more scientific point of view.

The chapters on "interests" are the most concrete, and at the same time the most unsatisfactory. They attempt simply to present in systematized form conclusions and summaries from the current literature on the subject. If the information is unreliable, it is believed that the way will be cleared for better studies by presenting what has thus far been attempted, together with the conclusions that may be drawn from the data thus collected. We do not mean to imply a wholesale condemnation of the studies hitherto made of the years covered by the school period. There have been a number of careful investigators, and their work is undoubtedly of permanent value. But this should not conceal the fact that there have been extremely hasty studies and equally unwarranted conclusions from very insufficient data. The type of experience found in the school period is, of course, enormously complex, and our psychology of these years must long be more or less fragmentary and tentative.

As the references and appended bibliography indicate, the material for the chapters on "interests" has been found largely in the Pedagogical

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Seminary and in Earl Barnes's *Studies in Education.* Due credit has been given in every case, as far as possible. I owe most of all, both as to standpoint and as to actual material on the first period of childhood, to some unpublished lectures of Professor Dewey's on mental development.

It is unnecessary to state here that this volume owes whatever of value it contains to the stimulating influence of the Departments of Philosophy and Education in the University of Chicago. It claims to be no more than a statement and application of principles familiar to every student who has worked with Professor Dewey and his colleagues. I do not mean by this that they are to be held responsible for all of the ideas here set forth. The responsibility is that which all originators of thought are fated to incur—that of stimulating others to follow.

I am indebted to Miss Josephine Henderson, professor of composition and rhetoric in the Oshkosh Normal School, for valuable assistance in the revision of the manuscript for the press.

IRVING KING.

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INTRODUCTION

Mr. King has attempted in the following pages to bring out the practical or working value of a certain standpoint and method in psychology. The attempt is made in connection with the mass of material, accumulated in the past generation, having to do with the development of the human individual between infancy and adolescence—for we all need to remember that "the child" is not a distinct genus or species, but is the human being himself in a certain characteristic stage of development. That the development is more rapid, its necessity more imperative, its outward results more obviously striking at this period of the life of an individual than at other times goes without saying. But I believe there is some need for saying what Mr. King has so clearly brought out: that the real interest, both scientific and educational (or moral), in the material of child-study lies precisely in its relation to the general question of development—throwing light upon processes and functions of growth, wherever growth is going on, and by contrast upon arrest of growth and how that is effected. The accumulation of material, the making of

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generalizations, the collecting of statistical averages, of stories relating to a particular kind of being called "the child," are subordinated to this one end.

There has been much promulgation of the gospel of the "genetic," where in truth only the material, not the method nor the final interpretation, is genetic. As Mr. King has shown, Preyer, the founder of the scientific psychology of childhood, frequently uses pre-existing classifications of psychology upon which evolutionary and genetic ideas (ideas centering in the fact of growth) have taken no effect. He employed them as Procrustean beds by which to measure the meaning of the facts dealt with. The *data* were genetic, but not the method of treating them, nor the conclusions finally reached. The same sort of thing happens in much that is covered by the current term "child-study." Even though the familiar classifications and "powers" of the faculty-psychology are dropped and despised, we may get in their place only discussions of isolated "interests" whether individual or statistically grouped accumulations of incidents and anecdotes, descriptions of the more sensational and quasi-pathological phenomena of childhood and youth. The *material* is genetic, but because it is not considered in relation to problems of

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growth, of development, the final effect and value, both psychological and pedagogic, are not genetic.

When the material, but not the method, is genetic, we are likely to take the observed fact as an isolated thing, complete in itself, needing only to be compiled, compared, or averaged with other like facts, to entitle it to figure in a generalization, or, even worse, in a rule for the proper treatment of "the child" at such a period—as if, it having been shown that 73 per cent. of children of a given age take interest in a blood-and-thunder story, it were then urged, as a pedagogical precept, that there is a presumption in favor of children of this age being fed on such stories. The illustration is a purely imaginary one, but not so the state of things of which it is too accurate a symbol. The method, as well as the material, is genetic when the effort is made to see just *why and how* the fact shows itself, what is the state out of which it naturally proceeds, what the *conditions* of its manifestation, how it came to be there anyway, and what other changes it arouses or checks after it comes to be there. Knowledge that 73 per cent. of eight-year-old boys and girls have a predilection for stories of the "nickel-novel" order would not be a fact to be despised, but it would be only preliminary to the real scientific problem, and the really practical,

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or educational, conclusion. We should want to know the *conditions,* the context, social and personal, in which the fact showed itself; we should want to see it, not as an independent fact, but as a fact of developing life, in the history of a mind. We should not know how to explain it scientifically, to tell what its meaning was, until we knew the circumstances which provoked it, which called it forth. We should want to know how largely these conditions were themselves in turn the product of previous conditions, of earlier environing influences, of previous modes of treating and indulging children. We should want to know certain negative or restrictive conditions so as to be able to form a judgment as to how largely this "interest" is a reaction against certain arbitrary and unnecessary limitations which children felt, or how largely it is a wild effort to compensate for certain unnecessary lacks in the surroundings, so that, if these were made good, the real *psychological* interest and attitude at the bottom of the fact would seek and find a radically different expression. And we should hardly be able to know such things until we knew something about the other 27 per cent.

Having placed the fact with reference to its generating and stimulating conditions, we might be able to pass a scientific judgment upon it. But

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we should not be able to form a practical or educational conclusion—that is, a conception of what mode of action to base upon the fact as thus observed and explained—until we knew something about its *after-history* as well as its prior history. We should want to know how it reacted; how it operated as a condition provoking further changes, or preventing certain lines of growth, and thus tending to arrest retrogression. For in a truly genetic method, the idea of genesis looks both ways; this fact is itself generated out of certain conditions, and in turn tends to generate something else. This latter way of looking at it—the *functional,* as Mr. King has stated and explained it—is necessary to complete the genetic, and it is particularly indispensable when we try to base any practical conclusions, whether moral or instructional, upon the simple psychological facts of the case.

The problem of interpreting children's acts is thus a complex and difficult one in any case. But it is much simplified if we begin with larger and more typical facts, instead of with such definite and specialized instances as that of our imaginary, yet too true, illustration. Mr. King has well brought out the inadequacy of some of the existing material dealing with "interests" of children between, say, six or seven and adoles-

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cence. And the reason, I think, is that the forms taken have frequently been so specialized that they are products of social and domestic conditions, of prior modes of education and habituation, too complicated to permit of unraveling in the present state of inquiry. In such cases we get the appearance without the reality of a scientific result. But this complexity should not discourage us from attacking cases of greater generality; an interest in *a* game is likely to be a result of special circumstances; interests relating to a class of games (such as shooting) are more general, while the interest in games as such presents us with a fact of almost uniform generality. We can study, to be sure, only particular games, but the more we keep in mind the features which give them generic meaning, the more we are on the lookout for the conditions that provoke and satisfy the game-interest as such, the more we strive to see what *sort* of a result children get from playing the game, the more likely are we to be on a hopeful trail. Certainly one of the reasons for emphasizing, as Mr. King has done, the importance of a knowledge of the psychology of infancy is that here conditions and results, by the nature of the case, are less highly specialized, less dependent upon local differences in the environments and upon previously formed

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habits, upon ways in which the child has previously been dealt with by others—a matter even more important than the ways in which he has been consciously instructed.

I come back to my original proposition: the true value, scientific and practical, of child-psychology is not that we may know this or that fact about children, or even know this or that about the constitution of that plenary being, "the child," but that we may know how the growth of a human being proceeds, what helps and hinders, what furthers and what arrests it, and how these results are brought about. When genetic psychology is conceived in this spirit, the quarrel about the practical and moral worth of scientific psychology to the parent and teacher will cease from lack of material to feed upon—but not till then.

This leads me to say that the genetic-functional standpoint, as that is expounded and illustrated by Mr. King, also gives a solution for the controversy about the relationship of child and of adult psychology. We are told that it is only ourselves we know; that it is only ourselves we can directly get at; that our knowledge of the mental and emotional states of children, even when we bring the most sympathetic insight and recollection to bear, must after all be based upon our

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knowledge of ourselves and be a projection out of our own conscious lives. And this is true. We are also told that in the adult we are dealing with complicated results, with habits of perceiving, feeling, and thinking, which got formed and set and almost automatic in the dim and forgotten past, and that we cannot really analyze or interpret these fixed effects save by reference to children in whom we find the causal conditions still operating. And this is true. Mr. King has sufficiently warned his readers against carrying over bodily, as it were, the events and contents which characterize the adult consciousness into the child's. But the moment we take as our problem the matter of growth (or arrest) we find that the true psychology of adult experience becomes infinitely more available and more indispensable for dealing with and interpreting what the child does and says than was the old rigid classification-psychology. The *kind of situation* that arouses hope, anger, affection, alertness, concentration, comparing, fallacious inference in the adult is that and only that which arouses it in the child. It is only by intimate and thorough acquaintance with the conditions that provoke such responses in *our* lives that we can get a vital understanding of what goes on in children. It is only as we see how our reactions in such matters

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modify our own further behavior, our ways of thinking and feeling, how they promote growth or tend to arrest us, that we can really judge of influences and effects in children. To fix attention upon the genetic-functional aspect is just the way to enable us to get the full benefit of our study of our own selves, and to make us aware of the reciprocal necessity of knowledge of self in understanding another—be he child or man—and of another in understanding the self.

What we need, in short, for both scientific and educational purposes, is to get rid of *externality* in psychology. Scientific inquirers have largely got rid of the externality of the fixed classifications and definitions of the faculty-psychology, though the latter still hold too firmly in thrall the popular mind. But it is quite possible to substitute an externality of "elements" and "combinations" which have a technical but not a real existence, since they are cut loose from the vital situations in which they originate and function, and are thus petrified into things by themselves. Or it is quite possible to get lost in an externality of brain centers, nerve-cells and fibers. Or again we may leave the externality of rigid classifications only to find ourselves in the externality of the ways and thoughts of children. We cannot have too many experimental facts, nor too

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many physiological facts, nor too many facts of child-psychology, any more than we can have too much of the *reality* of logical inquiry and organization. But none of these, and no aggregation of them, is psychology, either for the scientific inquirer or for the educator. They are psychology only when they are seen and used in relation to problems of the changes of conscious experience—how they come about and what they do. It is the clearness with which Mr. King has grasped this idea, and the thoroughness with which he has applied it to the material of "child-study" that promises to make his book most helpful not only to professed psychologists but to all who are interested—and who is not?—in attaining a better understanding of children.

JOHN DEWEY.

THE UNIVERSITY OF CHICAGO.

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CHAPTER I

CHILD-PSYCHOLOGY, ITS VALIDITY AND AIMS

The purpose of these studies is to interpret, as far as possible, the phenomena of mental development from the point of view of *functional psychology*. Such a statement will, it is believed, give the progressive teacher access to a mass of material regarding child-life that has hitherto been of little value because of its lack of organization, or perhaps, what is still worse, its organization under an antiquated and false psychology. How useless the material of child-study has thus far been is proved by the fact that it is yet regarded as of little importance in the education of the teachers of children. It is with the conviction that there *is* a knowledge of child-life that should be of the very greatest value to the teacher, that this functional point of view is presented. It is hoped that it will give us such an understanding of the child as not only will make us more sympathetic in our dealings with him, more appreciative of child-life, but also such as will enable us to be true artists in the education of boys and girls.

Psychology, it is generally admitted, is intimately related to the work of the teacher—so

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intimately, indeed, that every course of study designed to prepare for teaching, especially in the lower grades, includes some form of psychology, but, in the main, the psychology constructed from adult life. The assumption has been that whatever is true of the adult mind is true also of the child-mind.

Dominance of adult psychology. — It is not merely because the material of child-psychology has been chaotic that the teachers of children are trained so exclusively in the psychology of the adult mind. The practice really dates from a time when it was thought that the aim of psychology was to describe certain *faculties* or *powers* of mind, and that therefore the account of any period of life would apply equally well to all periods, the difference between the child and the mature individual being simply in the *degree* in which the various faculties were possessed by each. From such a point of view, it was far better to study the faculties in their most complete and adequate form. To undertake to study them in the child would give the student a very imperfect comprehension of their nature and worth. If the six-year-old had an æsthetic or moral emotion, or if he performed a bit of reasoning, it was not regarded as different from what might be found in an adult, except that there was less of it, or

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it was simply narrower in its application because of the child's limited environment.

It is clear that on this theory of the mind there is, strictly speaking, no such thing as a child-psychology. All that psychology has to do is to describe certain self-existent powers of perception, memory, imagination, reasoning, emotion, and will, that are different in children only because of the more imperfect degree in which they find expression.

This theory inadequate to interpret child-life.—One of the chief dangers in such a point of view is that it is apt to shut our eyes to many of the facts that should be most vital to us. Whenever any mental process is set up to be studied in and of itself, we inevitably tend to look at it as the reality and to regard whatever obscures the manifestation of it in the way we think it ought to appear, as unworthy of notice and as something to be got rid of as quickly as possible. *It is in just this fashion that the larger part of the mental life of the child is discounted.* That part only is regarded as interesting that conforms to the conception of adult mentality, or that at least seems to be faintly analogous to it. This attitude toward the child-mind is well illustrated by the mother that fondly collects and reports her child's odd expressions, saying of them that they sound

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so much like those of a grown-up person. There is a tacit assumption that it is a good indication of future mental ability for the child's expressions and attitudes to show early a similarity to adult types. To emphasize these analogues to adult life is to lay stress on the least important aspects of child-life. The daily, spontaneous outgo of energy in play, imagery, and work is of far more importance as an indication of the future than are the "'cute sayings," which are often mere imitations—not the sparklings of intelligence that they seem to be to the adult, but simply efforts, along with many others, that the child puts forth to express himself. As we shall see later, an imitation is far from meaningless to the child, but it is also probably far from having the meaning we are apt to put into it.

This manner of conceiving the child's mental life goes back to a type of psychology in which not the mental life itself was studied, but certain faculties, or powers, in which intelligence was supposed to express itself, but which could be separated from intelligence. As over against this, the more recent point of view is that psychology is concerned, not with the description of certain *expressions* of mind, but rather with *how mind comes to express itself in certain ways, and what the significance is of this or that form of*

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expression in the process of mental activity as a whole. Thus it does not start with certain ideal forms of activity, and inquire into the degree in which they can be traced in the mind's complex manifestations, stretching facts as it can to make them conform to these type forms and rejecting as unworthy of notice what cannot violently be forced into its mold.

This effort to describe, not certain mental contents, but rather how and for what purpose mental life takes on certain forms, or aspects, is what we mean by the functional method. We turn now to examine it more carefully.

The functional point of view.—It emphasizes, first of all, the intimate interrelation of all forms of mental activity, and the impossibility of describing any one aspect of consciousness except with reference to the organization of consciousness as a whole. The questions that arise regarding our mental life are such as these: Why do we now remember, now love, now find ourselves trembling with fear? Why do we now will to do this or that, and what is the relation of these forms of activity to the entire life we are living? Suppose, for the present, we avoid using the terms "remembering," "fearing," "willing," etc.; for they are hopelessly entangled with the older attitude. Let us ask simply: *How* and *why* has

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this mental state, of which I am now conscious, come to be, and what does it *mean to me?* What purpose does it serve in my entire mental make-up? If we ask these questions about any manifestation of consciousness, whether in a developed or in an undeveloped mind, whether in an adult or in a child, our interest is clearly in the mental state *as it exists and with reference to its setting.* It is no longer regarded as an imperfect manifestation of that which, it is hoped, may mean something in a later stage of life. The conscious state exists here and now, and it must be interpreted entirely with reference to its origin and meaning in the here and the now. It is a thankless and unilluminating task to describe a case of even adult reasoning or feeling as an existence in and of itself. When we begin to try to make such a description, we find ourselves telling how it came to be and what it does. But we can tell *how* it came to be only by means of the entire body of mental processes that preceded it, and we can tell *what* it does only in terms of the mental processes that follow it. As a matter of fact, when psychology has used more than *mere words* in the description of any mental phenomenon, it has told how it arose and what it did; but its emphasis has too often been on the state itself rather than on its meaning in the entire mental life.

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If this rather abstract discussion has been followed, it can now be seen that this new attitude changes the whole aspect of psychology. It transforms it into a study first and last of conscious life, not of certain isolated manifestations of such a life. We study the various forms of mental activity to get at the *meaning* of this life. How does it come to be, and how does it expand? What insight into its significance, as a whole, can we get by examining it in its various aspects? Psychology from this point of view ceases to be a dry-as-dust catalogue of kinds of association, emotion, imagination, and reasoning. It is rather an inquiry into *how* and *why experience* becomes imaginative or emotional, and how this differentiation serves to promote the movement of the whole experience.

Relation of the functional point of view to child-psychology. — A moment's reflection will make it evident that this conception of the aim of psychology will radically affect the attitude toward the mental life of the child. If it is taken as the method of approach to the child-mind, we find ourselves no longer trying to unravel dim and inadequate manifestations of adult powers. The effort is rather to get at the *meaning of the child-life in terms of itself.* Avoiding still the stock terms used to describe mental processes,

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we may say that we examine the various forms of the child's activity to get some insight into the nature of the child himself. If we can find what conditions resulted in his life going out into these particular forms of activity, and what they mean with reference to the life that produced them, we have given the phenomena of the child's experience a validity in and of themselves. The mental processes of the child are no longer to be regarded as imperfect affairs. They have all the meaning and reality that the mental events of the adult have. True, they may not be at all like the adult events, but they are entirely legitimate and valid, because they have arisen within a certain type of experience, and they must be interpreted in terms of the experience that rendered their appearance necessary. Unless we condemn the whole experience, we cannot condemn any of the activities that it has called into existence.

The inadequacy of the older method of approach is so well expressed by Professor Dewey that he may be quoted here:

> Practically many intelligent parents, especially mothers, are repelled from the work of infant observation simply because there appears to be only a jungle of disconnected facts, all on the same level, with no leading points of survey or standards of reference; moreover, the individuality of the living child is completely concealed in this uncon-

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trolled accumulation of facts with resulting disjointed arrangements. The real child who interests, who holds attention, who is the object of attention and of education, is a living unity. From the concrete and educational standpoint, the mass of particular detail is of worth only as it can be treated as symptoms, or indices, to the rediscovery of the living unit of development. One reason, probably the chief reason, that the results of child-study up to this time have been so comparatively infertile in application to education, is precisely because the forest has been lost in the trees, and a series of classifications under unreal headings, like senses, movements, ideas, emotions, have been substituted for the concrete individuality. If you take any one of the half-dozen more careful biographies of individual children and succeed in getting more than a slight idea of the character and temperament of the particular child in question, you will be more fortunate than I have been. Such glimpses as one gets at all are through occasional anecdotes and descriptive adjectives incidentally thrown in.[1]

Child-psychology different from adult psychology.—If these things are true, how incomplete has been the preparation of the teacher who has studied only the psychological classifications of mature life! Functionally, the psychology of the child is very different from that of the adult. If the "mental powers" arise with reference to a certain experience, and have certain functions to perform in the furthering of the experience, it is

[1] JOHN DEWEY, "Mental Development in Early Infancy," *Transactions of the Illinois Society for Child-Study*, Vol. IV, No. 3.

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manifest that an experience differently organized from that of the adult cannot be described adequately by the psychology of adult processes.

There can be no question but that there is a vast difference between child and man in the matter of organization of the mental life. The child is not able to react to the complex situations in which the man is perfectly at home, because his experience is relatively undifferentiated. The ordinary responses of our grown-up life are very complex. The mental processes called into being in the child's efforts to meet certain situations will very likely be quite different from those aroused in the adult in similar circumstances. Perhaps the child makes no response at all, where the adult is intensely alive. Take, for example, the reaction of each toward a fine sunset. The child of four or five years may not respond to it at all, or his attention may be attracted in a purely sensory fashion by the brilliant colors. How different is the reaction of the individual of mature mind—what a depth of æsthetic values he experiences that are totally foreign to the child!

The point is, then, that there is a psychology of the child-mind that is essentially different from that of maturity, simply because it is not legitimate to discuss mental powers and contents in

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and of themselves, but only with reference to their setting within experience, and further because in children we have a different sort of an experience from that possessed by the adult. It is differently organized because it is *new and the mind inexperienced.* It is different because it is confined in its expression and narrow in its limits. This is partly dependent on the fact that the body, the physical organism, is itself only imperfectly developed and co-ordinated. Moreover, the changes in the body due to the processes of growth make it such a varying medium of expression that the mental processes themselves must be quite different from those in an individual of relatively unchanging physical organism.

The child's experience pre-eminently a unity. —Although it is, or should be, the aim of all psychology to throw light on the process of our experience as a whole, it is peculiarly necessary in child-psychology. The mere cataloguing of mental contents without reference to their meaning for the conscious life as a whole may be tolerable in dealing with the mental life of adults. We usually know ourselves well enough to put such abstractions into their real setting more or less instinctively. For instance, we know so well what an emotion of a certain kind *means* to us that we do not detect the emptiness of an attempt

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to describe it as a content unconnected with the rest of our mental processes. But with the child such a method is bound to be misleading. For when we try to construct his conscious life out of such bare abstractions, we are apt to read into it the meanings we readily recognize these abstractions to have in our grown-up life. We cannot insist too strongly upon the fact that mental activities arising in children in certain situations do not necessarily have the same significance to them that the corresponding activities under the same external conditions would have to the adult. This, as we have already said, is because a differently organized experience is active in each case, and an emotion, a volition, or a process of reasoning simply cannot mean the same in the less specialized consciousness of the child that it does in that of the adult, where the division of labor mentally has been carried on to a far greater extent.

Summary of the aims of child-psychology.—Psychology is in general, then, an examination of experience, of how and why the various mental functions arise, and the part they play in making experience more adequate. The aim of child-psychology is the same as this, but with reference to an immature organism and a relatively undifferentiated experience. Consequently the mental

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events that occur will be different, having a different sort of an experience for their setting; and they will vary constantly as that experience becomes gradually more and more differentiated.

We turn to the phenomena of child-life, not, as Tracy maintains,[1] to find the adult in miniature, nor to get a list of the various faculties manifested in the child at various ages, but to get an account of the way his life, *as a whole,* works itself out from year to year; what boys' and girls' activities mean to them in terms of their own mental endowment, not primarily what they are analogous to in the adult. If we can thus in some degree get this standpoint, we have gone a long way toward putting ourselves in a position to afford children intelligent and sympathetic help.

Value of such a statement for the teacher.— If it is true that the teacher needs to be familiar with the science of mental processes, it should be evident that her training is not complete until she has some familiarity with the mental processes of the child. That sort of an experience which it is the teacher's mission to enrich, to render more adequate to the situations of life, should surely be the one with which she should be most familiar.

Teachers often express themselves as disap-

[1] TRACY, *Psychology of Childhood* (Boston, 1893), p. 5.

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pointed in psychology. But little of the good it seemed to promise them did they ever realize. It is believed the functional standpoint will be much more fruitful for them than has been the common one that sought to describe mental contents as so many things in themselves. Particularly valuable will this standpoint be, if it succeeds in giving a distinct and suggestive interpretation to the facts and processes of the developing mind of the child.

The problem. — Assuming, then, that child-psychology has a distinctive sphere of its own, we now turn to examine the process of mental development itself—the way in which the mental functions arise, and the ends they serve. The problem is to get some adequate conception of the child's experience as such: how he looks at things; what we may legitimately mean when we say he is afraid, or is immoral, or is deficient in an appreciation of the beautiful, or is imitative; of what significance are his reasonings, *when* and *with reference to what* does it occur; how are the mental co-ordinations perfected that make possible the complex responses of mature years; what is the reason for the shifting of interests at different ages; etc. These and many other questions the psychology of the child must try to answer. We can attempt to examine only

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a few of these problems, and that briefly. Our purpose is to illustrate a suggestive method of approach to the phenomena of child-consciousness, rather than to work it out in every direction exhaustively and in detail.

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CHAPTER II

PRIMARY PROBLEMS RELATING TO THE CHILD'S EARLIEST EXPERIENCE

The common view.—The method usually followed by investigators of the earliest mental life of the child has been to describe successively the development of the various senses, the emotions, volition, and cognition. They have sought to state approximately the day on which such an emotion as fear first appeared, or when certain movements were first made. The developments of grasping, walking, talking, reasoning, etc., have all been described in themselves as so many independent processes. As to the attempt to fix the first appearance of activity in the various senses, when the various emotional attitudes are first manifested, when the first evidence of volition can be definitely pointed out, the words of Professor Baldwin are much to the point:

> In the first place, we can fix no absolute time in the history of the mind at which a certain mental function takes its rise. The observations, now quite extensively recorded, and sometimes quoted as showing that the first year, or the second year, etc., brings such and such developments, tend, on the contrary, to show that such divisions do not hold in any strict sense. Like any organic growth, the

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nervous system may develop faster under more favorable conditions, or more slowly under less favorable; and the growth of mental faculty is largely dependent upon such organic growth. Only in broad outline and by the widest generalization can such epochs be marked off at all.[1]

Some psychologists, while admitting that the exact time of appearance of these activities is of perhaps minor importance, hold that nevertheless the order of appearance is important and that, to ascertain the *order,* the time of appearance must be carefully attended to.[2] From this also we must at least partially dissent, even against Professor Baldwin.[3] From the point of view we have developed, both of these are minor questions. If they were important, it would be as impossible to say which process came first as to say when each first appeared. The whole assumption that these questions are of importance, and that something can be said about them, involves a radically wrong conception of the development of the child.

First manifestations of mental processes entirely undifferentiated. — It certainly may be necessary to say of some acts that they involve, for instance, a cognitive attitude; of others, that they present certain emotional characteristics,

[1] J. M. Baldwin, *Mental Development in the Child and the Race* (New York, 1895), p. 10.

[2] Tracy, *Psychology of Childhood,* p. 6.

[3] *Op. cit.,* p. 11.

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etc.; but to say that sensation is present, for example, within the uterus,[1] or that fear, joy, or humor first appears on such and such days, presupposes, in the first place, an insight into the child's conscious attitudes that we do not possess, and, secondly, it assumes just what we have been combating most strenuously, namely, that the mental functions of the adult exist as such in the child, and that the child has much the same conscious evaluations of them as has the adult. Our point is, then, that these processes cannot be said to appear at such and such times, simply because they do not do so. Indeed, Professor Baldwin admits that "the complexity becomes finally so remarkable that there seems to be no before or after at all in mental things."[2] If it is ever allowable, with reference to the adult, to speak of this state as an emotion and that as a volition—that is, if one is ever separated off completely enough to warrant such a description—it is unquestionably not permissible as regards the child. Here, not only does such a complexity soon appear "that there seems to be no before and after at all," but even from the first *the various processes are not marked off clearly from*

[1] TRACY, *op. cit.*, p. 7; PREYER, *Physiologie des Embryo*, p. 484; cited by Tracy.

[2] *Op. cit.*, p. 11.

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one another. The entire child is essentially in every reaction, and it is only to the observer that he seems now in a state of emotion, now in one of cognition, etc. A child in its earlier conscious activities may be said to be essentially emotional, volitional, and cognitive all at once. Thus, if we had all necessary insight into the child's states of consciousness—a degree of insight which no observer can have—it would still be impossible to say of a certain phenomenon: "Here is the child's first volition." Nor, as we have stated, would it be of much significance to us if we could thus accurately name it. The really important point is: How does experience differentiate into volition and cognition; under what circumstances does the emotional attitude stand out in its experience; and what must such an attitude mean in an undeveloped consciousness? In fine, we have only to note how widely children vary in the reported appearance of their various "faculties," to see how much in the air the whole thing is and how useless such speculations are. To hold that the *order* of development is important is still to cling to the notion that the child-psychologist is to describe certain processes in and of themselves, forgetting that they can have no meaning except in terms of the entire activity within which they occur.

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The kind of observations needed. — In presenting this point of view we do not mean to be understood as saying that accurate observation of infant activity is undesirable or useless; quite the contrary. We need even more detailed and careful observations of children than we have had, but observations in which every activity is reported in its full and complete setting. In fact, we want not so much reports of acts as accounts of entire experiences, following one on the other and embracing *all the child's acts* with their environmental setting, as far as it is possible to give it. In other words, we insist simply on the legitimate interpretation of the observations by taking the observed facts in their context, and by remembering that the fundamental point is that each act has arisen as a functional part of an entire experience and hence must be stated in terms of this experience.

Real problems of the earliest mental development.—If the primary problem of child-psychology is not to discover the order and exact time of the appearance of certain "powers" in the infant—which, as a matter of fact, do not exist at all for its consciousness—what shall be its starting-point? This we take to be the infant's bodily movements. When the infant is first conscious is, and always will be, an extremely hypo-

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thetical question; but of one thing we can be sure, namely, that, from the first, the most undeniable characteristic of the baby is its tendency to certain activities. To get a good conception of the significance of these early movements, we may classify them according to their stimulus, as many have done since Preyer,[1] into *reflex, impulsive,* and *instinctive.* Although we may accept for the present this classification as a working basis, we should not take it too literally. As we shall see, the terms simply describe roughly the form of the activity, without expressing any ultimate distinctions of kind.

Classification of the earliest forms of activity.—In a general way, we mean by the reflex activities those co-ordinated movements that follow immediately some sensory stimulus. Familiar illustrations are the contraction of the iris at a bright light, sneezing, and crying. All these reflexes occur soon, if not immediately, after birth.[2] Impulsive, or spontaneous, movements, as they have been called by many recent psychologists, are random movements supposed to be initiated from within; that is, not stimulated by any external object. Examples are the grosser bodily movements, those of the arms and legs, etc., seemingly independent of all external stim-

[1] PREYER, *The Senses and the Will,* pp. 196 ff.

[2] PREYER, *op. cit.,* chap. x.

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ulus and possessing little or no co-ordination. Instinctive movements are usually supposed to be set up by some sort of sense-impressions, but differ from the reflexes in involving more complex co-ordinations. They are connected especially with the food processes and the more complex needs of protection from danger. The most obvious, and probably the most important, of early instincts is, of course, that of sucking. Instincts are supposed to be special adaptations to ends more remote or complex than those of the reflexes, and they differ from the impulsive movements in the very fact of their purposiveness.

On more careful examination we note that all these forms of early activity are alike in that they are responses to stimuli — a fact of the greatest importance in establishing their essential unity. The presence of a stimulus is evident enough in the reflex form. In the case of instinctive movements a stimulus seems to be always necessary to set them free. The infant does not make the sucking movements until the nipple is placed between the lips, and any similar object can excite the movement. In both instinctive and reflex movements there must be stimuli present to condition the activity, and in both cases there must be organized adjustments, differing only in complexity, for responding to the stimuli.

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In the case of the impulsive movements it is entirely likely that there are stimuli originating within the organism, if not from without. Naturally it is extremely difficult to isolate an infant absolutely from all external changes due to temperature or pressure of clothing, or to avoid slight changes in auditory and visual stimulation. Thus it may be that many random movements supposed to be due to internal stimuli may really be the result of complicated external excitations. It is certain that the nervous discharge following any stimulus for which there is not a definite co-ordination, even in mature life, is at first to a certain extent a chance affair as to the direction it takes, and the movements resulting may be so scattered throughout the body as to have apparently little connection with it. No better illustration can be given than the absurd bodily contortions of a child trying to control the fingers in the first attempts at writing. Thus it is entirely likely that a baby will respond, as it were, with its whole body to all stimuli for which it does not come into the world with ready-made co-ordinations. Only with time will the most advantageous sorts of response be selected. The point, however, is that even external stimuli may be the cause of many of the random, impulsive movements in the infant.

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As to internal stimuli, they may be due to many causes. Variations in the blood supply in the brain may initiate changes in the yet unstable cells; it is also probable that changes in blood pressure and supply in various parts of the body would have a like effect. When we reflect on how many internal changes can be set up in the infant's as yet unstable organism—by variations in the temperature of the air breathed, by variations in the supply and purity of oxygen, by the concomitant heart and arterial changes, variations in the nutritional elements in the blood, the sensations of hunger and thirst, etc.—we must see that the number of possible stimuli to such impulsive movements of the various muscles of the trunk, limbs, and face is very great, so that there should be much reserve in attributing any of these movements to spontaneous changes in the nerve cells themselves. It does not seem that they should even be called central in their origin, as there are so many possibilities for true sensory stimuli both from causes without the organism and from those within the digestive and circulatory systems. Granted these possibilities of stimuli, together with an unco-ordinated organism, and we have a basis for an almost infinite variety of impulsive movements.[1]

[1] Strictly speaking, there are probably no purely impulsive movements; since the lines along which nervous impulses may

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We thus see that the first movements of the child can hardly be differentiated on the side of stimulus, excepting that some are due to organic and some to extra-organic stimuli. There is, however, an important functional distinction that can be drawn. It will be noted that we have defined both instinctive and reflex movements as co-ordinated responses to stimuli, and the impulsive as unco-ordinated, vague, non-purposive movements. In making such a classification we depart from the usual notion of reflexes. Spencer, for instance, uses the term "reflex" to cover both reflex and instinctive movements,[1] holding that there is no difference except in complexity. By the usual terminology the term "reflex" is used of all responses to extra-organic stimuli, and the internally initiated activities are called "impulsive," or "spontaneous." We may admit the broader use of "reflex" as a mere rough and ready term, but in psychology it will certainly add to clearness and precision to confine it to those simpler co-ordinated movements with

discharge are all to a certain extent limited by instinct. But there may certainly be impulsive movements within these limits. The instinctive adjustments furnish possible avenues for the discharge of impulses. Impulses, both in early life and in maturity, may be said to be based upon disintegrated instincts. This fact does not lessen their true impulsive character.

[1]*Principles of Psychology*, Vol. I.

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which the child is already equipped at birth, and to the vast number of co-ordinations that are built up and at first consciously performed, but which become automatic through habit. It seems very inaccurate to call mere unco-ordinated response to external stimuli by the same name that we apply to co-ordinations of movements useful to the organism. From the functional point of view, at least, they are different. Inherited reflexes have definite functions to perform for the well-being of the organism. Impulsive movements are at the first entirely purposeless, but, as we shall later attempt to show, they are the raw material out of which voluntary, co-ordinated movements very soon begin to be formed.

It is because these purely unco-ordinated impulsive activities have been loosely called reflexes that the notion has become general that the higher functional activities, those involving the intervention of consciousness, are formed by the breaking up of these primitive reflexes. But we regard both reflex and instinctive movements as complex differentiated forms of activity as well as the so-called higher movements controlled by the will. Reflex, instinctive, and volitional activities are co-ordinate developments from the primitive ability of the organism to respond to stimuli, or, in other words, from impulsive movements. The larger part of the reflexes of the adult are co-

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ordinations, once conscious, but gradually handed over, as they became perfectly habitual, to the entire control of the lower centers. Hence it would be more correct to say that the reflexes develop from the voluntary movements. At any rate, we may safely hold that the development of reflexes and voluntary movements is correlative rather than successive. Each has a particular function to serve, and it is with reference to the needs of the organism that activity assumes these forms.

Summary. — The chief characteristic of the infant is thus its capacity for activity, roughly classifiable into instinctive, reflex, and impulsive. We have seen that these distinctions require further definition. These movements are all alike in being responses to stimuli, and differ chiefly in the degree of co-ordination that lies back of them. We may take as the primary fact regarding the newborn infant that it is able to respond to stimuli. This includes everything that can be said about its activities. From this primary basis we are to note how conscious experience arises, and how these first direct responses become co-ordinated and adjusted to ever wider uses. We shall try to state the mental processes that arise in the child as functions of the co-ordination of these imperfectly adjusted movements with which he starts.

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CHAPTER III

CHARACTER OF THE EARLIEST CONSCIOUSNESS

Primary problem of the earliest consciousness.—We have as yet said nothing about the consciousness of the infant nor of its self-consciousness. It is generally held that these are two distinct attitudes, that consciousness may exist without an accompanying consciousness of the self as separate from the objects, activities, and persons of the rest of the world.

It is not necessary here to enter into the vexed question as to when consciousness itself first appears, or whether it is always present in some form or other in all living matter. Some psychologists have gone so far as to hold that the embryonic child has a vague consciousness. We can only say if such does exist, it is for us purely hypothetical. *The really important point is not, When does consciousness begin? but, What sort of a consciousness is it when it has come, and in what way does it deepen, or become more definite and more adequate to the needs of the child?*

An answer to these questions should throw much light upon the proper interpretation of many activities of early infancy. If we can know

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the *sort* of a consciousness we have to deal with, we shall be able to interpret intelligently a great many so-called expressions of emotion noted in very young children; for instance, expressions of disgust, pleasure, astonishment, fear. We shall also have at least ground on which to say what the first ideas or volitions must be like, what they must mean in the consciousness of the child himself.

We have pointed out that, aside from a few co-ordinated movements, instinctive and reflex, the main characteristic of the newborn child is its tendency to respond vaguely with its whole body to all sorts of stimulations. The definite and useful responses are not yet isolated and fixed. From one point of view the infant seems to be literally at the mercy of external stimuli. On the other hand, the very fact that it *does respond*, and *is not simply affected*, is an indication of an active attitude on the child's part. Every expression and posture of the infant point, not to a helpless, automatic submission to every chance stimulation, but rather to the active putting forth of effort to get more stimuli.

The earliest consciousness co-ordinate in character with the earliest activity. — To attempt to say definitely what kind of a conscious experience that of the newborn babe is, seems to assume a

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knowledge that is impossible. It has already been maintained that we have no warrant for asserting the exact date of the appearance of certain "powers," or attitudes, even if they do appear in serial order. Those who do make such assertions, however, would claim that, though they do not know the infant's consciousness directly, they, at least, can judge of it through its various expressions in overt action. This position must be carefully distinguished from the one presented below. Nothing can be more uncertain than to judge of consciousness by its so-called expressions. The conclusions must rest on the assumption that certain activities are necessarily connected with certain conscious states—an assumption that for any particular case must always be more or less hypothetical. In other words, we must depend on the mere assumption that such and such an act expresses such and such a conscious state.

The situation is, however, quite different if we know what is the functional relation of consciousness to activity. We know, on the one hand, that the consciousness of the child changes with its growth, from a relatively vague to a highly specialized form. We know also that its activities, its possibilities of movement, change enormously with maturing years. We can note

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with certainty in ourselves that our adult consciousness is intimately connected with the formation of new and more complex adjustments for action; and that, after the adjustment becomes familiar through daily use, it tends to be accompanied by less and less of consciousness. All of these things prove beyond doubt that the degree of organization present in consciousness bears a direct ratio to the degree in which new and complex adjustments have been formed in the lifetime of the individual. The *mere presence* of a complex movement—for instance, a facial expression—in a baby only a few weeks old, or the infinitely complex adjustments of means to ends, as in the ants, is no evidence of a concomitant complexity of consciousness. But if we find a being, animal or human, which at first did not possess complex adjustments to a great variety of stimuli, but which in the process of experience did acquire them, we can say the consciousness of this animal or human being is correspondingly developed, although any particular intricate activity that we may select may not itself be accompanied by any special consciousness. In other words, it is not the mere presence of an act that can be taken as an index to the form of consciousness lying back of it, but the matter of how the act arose, how it came to be. *Consciousness is related,*

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not to activity, but to the growth of activity. The animal or insect coming into the world with ready-made complexes of adjustment cannot be said to have the same sort of a conscious experience that is possessed by a human being, who starts with few definite forms of action, but builds up many in the course of his life.

From this point of view we can surely decide with some assurance as to the character of the child's consciousness. We judge it not by any particular act or acts, but by the organization of the activity as a whole that it has built up in the process of its experience. Turning then to the earliest periods of the infant's life, its consciousness must be entirely co-ordinate with the earliest impulsive activities. Its reflex and instinctive adjustments, which it has had no hand in forming, can mean no more to it, either before or after their performance, than do the unco-ordinated impulses. If the child is conscious in these first days, it must be with a sort of consciousness of which we can form little idea —a mere feeling, or sentiency absolutely without definite reference of any kind. It is so hypothetical that it is of little use to speculate regarding it. Of one thing, however, we can be certain, that is, that definiteness does in time appear, and whether it arises out of nothing or

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out of a previous vague consciousness, we can at least note the circumstances of its appearance. This is a legitimate and purely functional problem, while the question as to the existence of previous conscious states unconnected with any process of activity is an enigma. If the infant has this vague sentient experience, it is because its acts are entirely with reference to stimuli and not to things. Just as the response to a stimulus impinging on any particular sense-organ is, as we have pointed out, at first diffused throughout the whole body, so the consciousness of any particular stimulus, as such, must be correspondingly indefinite. A light stimulus would give, not a sensation of sight, but only a vague modification of the general tonus of feeling.

The hypothesis of separate consciousnesses.—Some psychologists, as Preyer,[1] have supposed that there is a sort of a separate consciousness for each kind of sensation; for example, one for the visual, auditory, and touch sensations, and even a pain consciousness separate from all the others. Each of these *egos* is supposed to act for itself, and it is only by frequent coincidence of unlike sense-impressions that connecting links are formed or perfected in the brain. Preyer mentions his boy's biting his (the boy's) arm

[1] *Development of the Intellect*, pp. 205 ff.

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over and over again, in spite of the pain, as an evidence of a higher and a lower self, the first having its seat in the brain and the latter in the lower centers of the cord. It is true there is at first imperfect or absolute lack of connection between the organs of sense, between the ideational or upper centers and those of the cord. But for this very reason it is not likely that there are, as it were, miniature consciousnesses for each sense or for the higher and lower centers. The lack of connection itself renders definite sensations, at least as we know them, scarcely possible. The infant does not at first get a lot of somewhat definite visual sensations, and a lot of equally definite tactual and pain sensations, with simply the inability to connect them in the same consciousness, thus rendering it possible for it to bite its arm over and over again because the pain-self cannot tell the visual-self that the response to the visual stimulus causes the pain. Undoubtedly there is lack of co-ordination between the pain and the visual centers. But this simply means that the arm as a seen object is not connected with the arm as touched or bitten. The two sensations, as far as they exist, are in the same experience, but without a unitary *reference.* We can think of them as contributing only in a general way toward a vague, indefinite

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consciousness—a consciousness in which neither sight, touch, taste, nor hearing exists as we know them, but only as the undefined elements of a general consciousness. Out of this undefined consciousness the special senses arise, or are differentiated. The point to be emphasized is that there must be a unified consciousness from the very first, even though it be a vague one. It is not conceivable that a single consciousness could ever arise if we had to start with discrete and relatively definite elements. It is true the same object may be different for the various senses, but the consciousness is still unitary, if it exists at all. *The discreteness lies on the side of the object, not on the side of consciousness.*

There is, undoubtedly, a certain independence at the first in the development of the various sense-organs and sensory centers.

Physiological research has shown that when the sensory motor brain centers of touching, seeing, hearing, develop in the first month, there are no functional cross-paths of communication. This corresponds precisely with the results of actual observation of the infant activity. When the child, who is born practically deaf and blind, begins to see, to feel, and to hear, each of these activities develops independently of the others; each is isolated. Seeing has no meaning with reference to possible experiences of touching or hearing. In seeing, the child simply learns to follow and fixate light stimuli with the eyes and

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head; because of lack of cross-reference, meaning, or intellectual content, does not attach to the activities.[1]

This is simply another way of saying that each sense contributes in a vague way to the general consciousness; a definite consciousness of this as a sight, that as a sound, can arise only as the senses begin to interact, and thus help define the meaning, one of another.[2]

The differentiation of the special forms of sense experience from the primary general consciousness takes place as a function of the child's increasing demands for fuller activity. The connections are made possible on the sensory side because they have first occurred, or been made necessary, on the active side. The infant repeatedly finds the same complexes of sensations connected with a certain set of activities. *The activity is a unit,* and the group of eye, ear, and tactual sensations become inextricably bound up with the act, and perhaps come to be symbolic of it; the reinstatement of one of the sensations serving to call up the images of the others as it sets up the activity for which it stands. The unity in the reference of the sensations comes in on the side of the act. Later, when the object is known as an object, the sensations are easily

[1]DEWEY, "Mental Development in Early Infancy," *Transactions Ill. Soc. for Child-Study,* Vol. IV, p. 71.

[2]*Cf.* CALKINS, *Introduction to Psychology,* p. 385.

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transferred to it, or rather, the object seen is recognized as the one touched or seen, because it has been the basis of the previous single activity.

Overt action the basis for the co-ordinated development of conscious elements.—It is important that we should see that if it were not for the connecting activity, there would be absolutely no ground on which the senses could be brought together in their reference and thus become more than mere undefined modifications of the general tonus of consciousness. Merely to see an object repeatedly and to touch it repeatedly would never bring sight and touch together with a common reference. It is only as something is to be done with the object and the various senses co-operate in the doing that their unity of reference appears, and only then do they stand out from one another as different ways of referring to the same things. The child's first objects are really certain possible activities that are symbolized by certain sensations involved in performing the acts. The sight of an apple or of a rattle excites a certain activity with reference to it which requires the use of hands and mouth, to be completely carried out. Thus the growth together gradually occurs. But we shall have more to say of this when we come to speak of grasping.

Thus far, then, as regards the first conscious-

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ness of the infant, while we cannot say when it begins to exist, we *can* safely say of what sort it must be after it has come; that is, it must be relatively as unorganized and lacking in definite meaning as are the overt activities that go along with it, and that, though the special senses may develop to a certain extent in isolation, it is not likely there can be any well-defined consciousness of the respective sensations, as such, except as they become co-ordinated in single activities and are made to serve *definite functions* in the carrying out of the activity. Generalizing, we may say that consciousness is at first undefined, and that it grows in definiteness of reference and content as activity becomes more and more complex.

Development of a consciousness of self.—The answer to the above problem is really an explanation of how self-consciousness arises. Many writers have tried to select out certain kinds of activity as peculiarly connected with the development of the infant's sense of self. Preyer connects the development with activities that produce painful sensations.[1] Miss Calkins[2] refers it partly to the child's experiences with other people in the satisfaction of his desires, and partly to his native interest in moving bodies, and hence in moving people. She says further:

[1] *Development of the Intellect*, p. 189.

[2] *Introduction to Psychology* (New York, 1901), p. 389.

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The development of his imitative activities is doubtless a . . . . potent factor in this experience. Originally the baby must reflect on these imitations (!), for example, the rhythmic movements of his head and hands, and must compare them with their models; and because his imitative movements include motor as well as visual sensations, they must therefore contribute to the baby's consciousness of his own body, as distinct from other bodies.[1]

All this seems far-fetched, as will perhaps appear more evident when we take up imitation itself. Baldwin[2] emphasizes the experience associated with people as over against the child's experiences with things. This awakens an interest in others and helps to intensify his own consciousness. Preyer[3] mentions the striking of the body and other objects, looking into the mirror, learning language, etc., as important factors.

From the above opinions it is evident that the development of the consciousness of self cannot be connected with any one set of activities, and it seems more correct to say that *all* the child's activities are factors of very nearly equal importance for developing the sense of self as distinct from things and other persons. Miss Calkins holds that all consciousness is in a sense self-consciousness,

[1] *Ibid.*, p. 391.

[2] *Mental Development*, Book I, p. 123.

[3] *Op. cit.*, chap. xix.

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but the undiscriminated, conglomerate consciousness of one's own body, resembling, as we have seen, the sleepy adult consciousness, is only in a very vague and inarticulate way a self-consciousness, and can only faintly resemble what we know as the consciousness of ourselves.[1]

The first consciousness of the child is probably like this sleepy adult consciousness. With such a conception it is easier to see how *every* act of the infant tends to bring out and define this original vague sense of self. Hence it is naturally impossible to say *when* the child becomes definitely conscious of himself as related to other selves, and as contrasted with things. Self-consciousness is essentially a relative and variable term for all of us. It stands for a process of definition that, strictly speaking, proceeds till maturity or even later. The really important point is not to be able to put the finger down on some one thing that proves a developed self-consciousness, but to be able to show at every point that the process of definition is a function of the growing complexity of the child's activities.

It has been held by many that the child first becomes conscious of himself and then ejects this sense of self into others; in other words, he is supposed *to infer* consciousness in others from his own consciousness. From our standpoint this is impossible, nor does the observation of

[1]CALKINS. *op. cit.*, p. 389.

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children lend any support to the theory. As Miss Calkins points out,

> one is never conscious of others except as related to oneself, and seldom, if ever, conscious of oneself except as connected with other selves. So, whatever the date of the emergence of a definite self-consciousness, there can be no distinction of time between the consciousness of one's self and that of other selves.[1]

Or, putting it more definitely from the functional point of view, it would be impossible for a developed self-consciousness to arise alone in a series of activities that are so intimately bound up with other people.

[1] *Op. cit.*, p. 392.

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CHAPTER IV

INTERPRETATION OF EARLY EMOTIONAL EXPRESSION

The infant consciousness usually conceived in emotional terms.—In taking up the various forms of the earliest differentiations of consciousness, it is most natural to turn first of all to the early emotional life of the infant. It is on this side that we most often think of the child's first conscious states, and it is important, at the outset, to clear it up definitely from the functional point of view. If the facts of infantile emotion can be so stated, the functional standpoint would seem to have stood one of its most crucial tests.

We ordinarily tend to read our grown-up feelings and emotions, even more than our ideas, into little children. Their consciousness seems to be most easily interpreted as an emotional one. Let us see how far this is justifiable, granting the infant has the sort of consciousness we have attributed to it; or still better, with such a consciousness, what sort of emotional attitudes is it conceivable that it should have?

It has been suggested that definiteness of sensation is functionally related to the growing com-

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plexity of the child's movements. We have held that the same is true of consciousness in general. We now inquire as to whether emotional attitudes have any such direct connection with the child's co-ordinated movements, and, if so, what light is thereby thrown on their nature. What do the emotions of love, fear, surprise, etc., if they are present in the child-consciousness, mean to him?

True emotion the product of a process of differentiation.—Of emotion in general it may be said, in brief, that it is no more capable of being defined in and of itself than is any other mental attitude. It is a direct product of previous activity and arises in consciousness with reference to present action. Every emotion presupposes a definite organization and co-ordination of previous activities. Its definiteness, its quality, its intensity, all depend on the degree of co-ordination that has given rise to it. Just as a co-ordinated movement of any kind must occur with reference to some end that is to be accomplished, so with the emotion that arises within such a co-ordination. As the co-ordinated movement is thus different from an impulsive movement, so is emotion different from the mere sentiency, if such exists, of the earliest consciousness. In other words, there is no such thing as emotion in general; it is always directed toward something, and it is, hence,

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impossible to conceive of the diffuse, unorganized consciousness of the stage of life when impulsive movements predominate, as being capable of emotions in anything like the sense they exist for us. Emotion is essentially a "narrowing and particularizing experience."[1] The possibility of emotion grows as the activities become organized and the ends capable of being reached become more and more remote, and it is not until maturity that a genuine basis for the higher and more subtle emotions exists. Children often simulate the presence of these subtler emotions, unintentionally, through imitation of and suggestion from their elders. The child thinks that he is expected to feel so and so, and tries to find something within that may possibly be the attitude desired. This, however, will be discussed later, in the chapter, "The Moral Ideas of Childhood." Here we are concerned merely with aspects of the earliest emotional experience.

Emotion connected with the checking of habitual or instinctive co-ordinations. — Many modern psychologists hold that emotions arise when an habitual activity is checked, especially an activity in which there are organized many instinctive reactions and adjustments. Now, while the child has many instinctive attitudes and

[1] CALKINS, *Introduction to Psychology*, pp. 264, 277.

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reactions, he most certainly is relatively free from habits, and his instinctive attitudes are not organized with reference to any conscious ends. Hence they are not as yet available as a basis for emotions. Thus, while the checking of the sucking instinct soon after it is well established might produce great uneasiness, and perhaps pain, we could hardly say the infant suffered disappointment or anger in having the opportunity for exercising its instinct removed. But if at the end of a year, after the instinct is bound up with many conscious experiences of food-getting, and many co-ordinated activities connected with it have been fixed in habit—if, we repeat, this instinct is then denied the possibility of functioning, there is no doubt but that a real emotional attitude would arise, varying greatly, of course, with the situation which furnished the check.

In fine, we may say that in proportion as the impulsive movements predominate, and as there are consequently few habits, the emotions, in the stricter sense of the term, will be few and relatively shallow. There may occur violent reactions to pleasurable or painful stimuli, but these cannot properly be called emotions. Violent fits of crying at being thwarted in some conscious adjustment—for instance, in the rolling out of reach of the ball with which the child is amusing

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himself, or at the failure to be taken out of doors as usual, or at the sight of the mother going out at the regular time without him—these are good examples of incipient emotions, but it is doubtful whether they can be called anything more than this. As we shall see later, such a reaction is rather the discharging of pent-up energy along the easiest motor outlets, of which those connected with crying are certainly among the easiest in the baby. The activity checked in its overt expression simply runs over easily into the muscles producing crying, not because there is anything very painful, but because it is an easy direction for a discharge to take. It is simply a safety valve for the arrested overt activity; it is good evidence of the intensity of the energy at the child's disposal, and nothing more. How little real emotion is present in such crying is proved by its extreme transiency.

If the theory of the connection of emotion with habit is true, it is clear that emotions, as well as ideas and complex co-ordinated activities, are the products of growth. They are all impossible in the very young child, and only gradually do they become possible. We thus see that it is impossible to take an isolated act of a baby's and say anything definite as to its emotional significance. The meaning of the attitude to the infant

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itself, what it stands for in its experience, is what is wanted, and this cannot be gotten without a knowledge of the life-history of the child in question.

How shall the so-called evidences of early emotion be interpreted?—We should next take up the question of how emotion is related to the furthering of the child's activity, or to the deepening and enriching of his experience, but we shall pass over this for the present and turn to a more concrete aspect of our problem. If our theory regarding the possibility of infantile emotions is true, how shall we interpret the emotional attitudes of very young children as reported by many of their closest observers? Preyer describes very minutely children's emotions. Many other observers have done likewise, and it is common for most of us to be attracted first of all by this same aspect of the infant's life.

Preyer says emphatically:

> Little as is thus far known of the emotions and feelings of the young child, one thing may be declared as certain—that these are the first of all psychical events to appear with definiteness, and that they determine the behavior of the child. Before a sure sign of will, of memory, judgment, inference, in the proper sense, is found, the feelings have expressed themselves in direct connection with the first excitations of the nerves of sense, and before the sensations belonging to the special

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departments of sense can be clearly distinguished as specifically different. But through repetition of feelings, opposed in character, are gradually unfolded memory, power of abstraction, judgment, and inference.[1]

It is clear that Preyer, in this passage, uses the term "emotion" in a very loose sense. To say that feelings and emotions are present with definiteness before any other signs of intelligence is to assume a knowledge of the consciousness of the child that we do not possess. What we really have on which to base our theories are certain forms of expression, certain reactions. What these forms of expression mean for the child's consciousness we cannot know directly. We can only infer it from what we know in our adult consciousness of the functional significance of emotion, reasoning, etc. We know how these attitudes come into being, how they are related to our activity and our consciousness as a whole. We have reason to believe that in the child, just as with ourselves, consciousness is functionally related to the processes of activity, and that the so-called conscious attitudes or powers of mind are simply differentiations of consciousness with reference to the needs of action. If so, we can get at their true significance only by interpreting them with reference to the needs that called them

[1] *The Senses and the Will*, pp. 185 ff.

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forth, or in terms of the organization of activities in which the necessity for them arose.

In the child's vague consciousness, as we have already seen, not only are there not definite emotional attitudes, but the emotional attitude as such can hardly be said to have differentiated itself from those of cognition and volition. We have at first simply an undifferentiated consciousness accompanying a lot of impulsive activities, the first simple steps in the co-ordination of which are mediated by a consciousness that cannot be said to be volitional, ideational, or emotional. It is only, as we have said repeatedly, when the adjustments to be made become complex, that a division of mental labor begins to take place. *The mental attitudes of all mature minds are strictly co-ordinate with the complexity of activity of which they are capable.* The presence of a distinct idea in anyone's mind means the possibility of a particular sort of complex activity. The presence of a distinctly emotional attitude means that a complex co-ordination of instinctive and habitual activities has been checked, and that they are held in suspense or are being made over, or readjusted to another and perhaps more complex situation. But in the infant, with its unco-ordinated impulses, we can expect only a correspondingly indefinite demarkation of mental

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functions, not to speak of the indefinite demarkation of different aspects of one particular function.

Now, a careful examination of the emotions attributed to very young children reveals the fact that they are really more intelligible and consistent taken in this way than if interpreted as similar to the developed and consciously evaluated emotional states of the adult.

Nature and origin of the forms of emotional expression.—The accounts of these so-called early emotions are, as stated above, based on certain supposedly emotional expressions noted in the infant's behavior. Preyer, for instance, notes the expression of satiety, of discomfort, etc., very soon after birth. Crying is taken as a sign of strong dissatisfaction or of fear. Various other signs also of fear are noted, as well as those of astonishment, surprise, etc. Before examining the evidence before us, we may pause to inquire into the nature of the forms of expression usually given an emotional significance. Opening wide the eyes is mentioned as one of the earliest expressions of pleasure.[1] Crying has just been noted as an expression of pain and discomfort, as is also shutting of the eyes, turning away of the head, etc. The mouth is noted as "a most delicate index of the child's mood," whether agree-

[1]PREYER, *op. cit.*, p. 143.

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able or disagreeable, as early as the third month.[1] Laughter is noted in the second month.

These fairly regular forms of expression that seem pretty constantly to accompany certain sorts of experiences—*e. g.*, cold draughts, warm baths, full stomach, sight of cats and other strange objects—are clearly definitely co-ordinated movements. Their constancy of form and their seemingly definite relation to certain experiences preclude the possibility of their being mere impulses. They are without doubt, as Darwin showed,[2] instinctive adjustments, the remnants of certain complex activities, useful at some previous period in maintaining the life-processes of the individual, but now reduced to mere forms of expression. Now, the important point here is that these instinctive complexes, because they are instinctive, are, at their first appearance in the infant, purely automatic affairs and do not stand for any conscious evaluations, as they do in the adult. There is no doubt but that they may, and do, represent feelings of comfort and discomfort in the child, but we shall find them also occurring where there can scarcely be any definite feeling-tone to his consciousness.

In so far as they are instinctive, they must be

[1] *Op. cit.*, p. 148.

[2] *Expression of Emotion in Men and Animals.*

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unconnected with conscious attitudes.—It is often thoughtlessly assumed, if the ability to make certain movements is inherited, that the consciousness, of which the movements were originally the expression, may also be transmitted from generation to generation. To explain fully here why the capacity for certain movements may be inherited, while consciousness is not, would be too difficult a task. It will be sufficient for the present to recur to the conception of consciousness as arising with reference to the working out of some complex adjustments of action. The ability to make certain movements may be inherited; that is, the proper co-ordinations in the nerve centers are wrought out before birth. But if our conception of consciousness is correct, the latter could come into existence only in the actual process of activity, through the necessity of readjustments and adaptations. We can conceive of an individual's having inherited a predisposition to have a certain sort of conscious life, but the conscious life, as an actual existence, he must construct for himself. It does not come to him ready-made, along with the motor co-ordinations with which he is born, but only with the motor co-ordinations that he himself builds up.

The point, then, thus far is this: The expressions usually supposed to indicate emotion in very

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young children, especially in the first two or three months after birth, must in and of themselves be regarded as co-ordinations of the purely instinctive type, to which there is little more than a very vague conscious value. Their number is comparatively small at first, limited to the opening and shutting of the eyes, the slight play of facial muscles, and crying. These expressions, as we have noted, all appear along with certain fundamental bodily conditions—the satisfaction of hunger, certain tastes, etc. Stimuli of a simple character, having no immediate relation to these vital needs, apparently excite no expression of feeling or emotion in the baby, even though to the adult they arouse intense affective tones.

All of these facts point to the position we have from the first held—that the earliest so-called emotions are purely organic. Their expressions are simply the instinctive adjustments toward certain vital stimulations; while other stimuli that lie a little outside the baby's most pressing needs are not reacted to at all in this apparently emotional fashion; that is, they do not call out the instinctive adjustments. This does not mean that these stimuli have no effect on the baby's organism, but that the effects are not so noticeable, since they are not as yet associated with ready-made co-ordinations suited to receive or reject them.

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As this expression is organized into larger wholes of activity, the child gradually becomes conscious of its peculiar feeling, and this feeling stands to him for the emotional value, or worth, of the situation toward which the instinctive response is made. But this can hardly be so when the expression first occurs. As a muscular movement, it of course has a certain feeling connected with it, which we may call "the feel" of the adjustment. However, since the movement has occurred entirely automatically, it is clear that the feeling of the movement cannot in any wise be connected with the situation that has called it forth. Thus it seems altogether impossible that the expressions of the newborn infant, however violent, can have any emotional significance. If they are connected with feelings, they are simply the feelings of making certain physical movements, the meaning of which is absolutely blank to the baby.

First expressions connected with food-getting.—In this way, then, may be interpreted the expressions, occurring in the first few months of the child's life, which are described by Preyer and many others, and which are familiar to everyone that has given any attention to very young children—expressions such as those following the appeasing of hunger, the warm bath, expres-

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sions of pleasure at being undressed, at various sounds, at the sight of the human face, of delight at being taken into the fresh air, and of discomfort at conditions the reverse of the above. All these expressions, we may repeat, occur as parts of activities that lie very close to the vital needs of the baby. How purely instinctive they are is illustrated by instances on record in which certain other powerful stimuli—*e. g.*, repulsive and foul odors—produce in the child, at the first, no signs of nausea; no expression of the face is associated with the reception of such impressions. As stated above, the explanation of this fact on the functional theory is that they lie completely outside the immediate requirements of the life-process and appear only later as acquired adjustments in a broadened experience. If the simple play of facial expression were the indication of a very conscious pleasure or pain, it is not conceivable why the disgusting odor should not produce the proper facial expression, just as does the bad taste in the mouth. There is no question but that both are received as sensations, and that both contribute to the general tone of consciousness, tending to render it agreeable or disagreeable. Our point is that in neither case is there any localization of this vague tonus in a definite feeling, although in the one case a developed expression results, while in the other none at all.

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Interpretation of expressions of fear. — The early cases of supposed fear may be explained in the same way. The appearance of fright seems to follow so little regularity, or system, that it is hard to believe the infant has a definite instinct to be afraid of certain objects. If this were the case, all children would in the main be afraid of the same things. More probably the main element in such cases is the sudden and unwonted stimulus which produces necessarily a large and general reaction. This reaction would tend to occur through the motor channels offering the least resistance; that is, through the ones traveled oftenest; or, we may say perhaps, a violent reaction, such as crying, furnishes a safety valve, in many cases, for the pent-up energy which at other times may result in expressions of joy and laughter from almost identical stimuli.

Preyer tells us[1] that "the time at which a child first betrays fear depends essentially upon his treatment;" that "the avoidance of occasions of pain prolongs the period that is marked by unconsciousness of fear; whereas the multiplication of such occasions shortens the period." In regard to this we should say that there is no intrinsic reason why the mere suffering from pain should make the baby more easily susceptible to the emotion of fright, as in the presence of cer-

[1] *The Senses and the Will*, p. 164.

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tain animals. What probably does occur, as a matter of fact, is that the frequent occurrence of painful sensations has increased the child's sensitivity to stimuli in general or created in the nervous system a state of unstable equilibrium. In such a child a violent or unwonted stimulus would tend to produce a reaction through instinctive channels more easily than in one whose pain threshhold was relatively higher.

All observers of children have noted how they are usually thrown into fright at sight of dogs, pigs, cats, etc., before any experience with these animals can have taught them that they possess any dangerous qualities. Preyer tells us:

> A little girl was afraid of cats as early as her fourteenth week of life. Thunder makes many children cry—for what reason? . . . . If there is in this case the co-operation of ideas, either clear or obscure, of danger, or of reminiscences of pain after a noisy fall, or of disagreeable sensations at loud rumbling and the like (I observed that my child in his second year cried with fear almost every time heavy furniture was pushed about), yet in the expressions of fear on the part of unexperienced animals, factors of this sort are excluded. . . . . [The child] is afraid of all sorts of things not at all dangerous, before he knows danger of himself and before he can be infected by the timidity of mother or nurse. It is altogether wrong to maintain that a child has no fear unless it has been taught him. The courage or the fear of the mother has, indeed, extraordinary influence on the child, to the extent that courageous mothers certainly have courageous chil-

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dren, and timid mothers have timid children, through imitation; but there are so many cases of timidity and of courage in the child, without any occasion of that sort, that we must take into account . . . . an element lying farther back, heredity. Thus Champneys observed that his boy, when about nine months old, showed signs of fear for the first time, becoming attentive to any unusual noise in a distant part of the room, opening his eyes very wide and beginning to cry. A month or so later this child had a toy given him, which squeaked when it was squeezed. The child at once screamed, and screamed afterward again and again when it was offered to him. But after some time he became accustomed to the squeaking, then he was pleased with it, and would himself make the toy squeak.[1]

Preyer gives many other examples, and every reader that has observed a baby can supply many more. In by far the majority of cases we cannot conceive of the apparent fright as being due either to education or (Preyer to the contrary) heredity. This latter possibility is excluded, because we have repeated instances of children's fright at objects which never could have played any part in the danger experiences of the child's ancestors, and hence fear of them could hardly have become hereditary.

We have quoted the passage from Preyer because it illustrates so clearly the difficulty involved in assuming a definite emotion of fear present in these expressions of the child. As we

[1] *Op. cit.*, pp. 164-67

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have already pointed out, the child has inherited a small number of motor co-ordinations, of an instinctive type, and in these the tensions resulting from any unwonted or strong stimulus are apt to find easiest relief. Some of these co-ordinations in the adult are expressions of grief, fear, etc.; others of joy. Now, if a stimulus calculated to produce a strong reaction, and yet one toward which we can conceive the child to have no inherited fear, is brought to bear upon him, it is really a matter of indifference in what way the reaction occurs. It may be diffused in many impulsive movements, or it may drain off in certain inherited co-ordinations, and the particular channel it takes will be determined largely by the use that channel has previously had. The crying co-ordination is one that comes into use at birth, and continues to be constantly ready to be touched off. It is absurd to attribute to crying in the earlier periods of infancy much emotional significance. It is, as heretofore suggested, rather a safety valve through which the energy of response to a great variety of stimuli, having little or no connection with its instincts, may find outlet.

Capriciousness of the infant's expressions of fear.—If there is any evidence that the same, or practically the same, stimuli have on different

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occasions precisely opposite effects on the child, the contention above would have much weight. Fortunately there is such evidence. We take the following from Preyer:

> In the sixteenth month my child was afraid when I drew tones of high pitch from a drinking glass by rubbing with my finger, as I had done once at an earlier period. His fear, which did not at that time—in the third month—appear, now increased to the point of shedding tears, whereas the ring of the glasses when struck was greeted with a cry of joy. Did the unusual tone at the sixteenth month seem uncanny (!) on account of ignorance of the cause? Yet the same child laughed at thunder and lightning (eighteenth and nineteenth months); another child even in the thirty-fifth month did the same, and imitated cleverly with the hand the zigzag movement of the lightning. In the twenty-second month my child showed every sign of fear when his nurse carried him on her arm close by the sea . . . . even during a calm and at ebb tide when there was but slight dashing of the waves. Whence the fear of the sea, which the child is not acquainted with? The water of the Eider Canal, of the Saale, of the Rhine, he was not in the least afraid of the same year. The greatness of the sea could not itself excite fear, for the symptoms of dread were shown only close by the water. Was it, then, the roaring heard in advance?[1]

Both this quotation and the preceding one from Preyer illustrate well the confusion and difficulty resulting from the attempt to explain the child's expressions of feeling in and of them-

[1] *Op. cit.*, p. 169.

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selves. It is absolutely impossible to say what the emotional value of any of these expressions is, because we know nothing of accompanying conditions. The seemingly capricious character of the emotions last described Preyer is unable to explain, but from our theory as to the general character of the infantile consciousness this very caprice is what we might expect, as we have already pointed out. The inherited co-ordinations both of fear and joy form easy channels of discharge for any stimulus, and it is generally a matter of uncertainty which path the discharge may take. A strange stimulus usually produces crying, because this is a commonly used co-ordination; but, as we see in the cases cited from Preyer, it is entirely possible for the discharge to take place in the co-ordination expressive of joy. Thus again the fact is emphasized that much that passes on the surface for childish feeling has very little conscious significance; that is to say, when the child cried at the rubbing of the glass, he might, if we may suppose for a moment that he was capable of such introspection, have asked himself: "What in the world am I crying for?"

However, we must not place too much reliance on these instances, even if they seem to play into our hands. Being isolated cases, it is possible

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for scores of factors unknown to us to have made the results what they were. We repeat from a previous page that the whole life-history of a child must be known before we can state dogmatically what a given overt act or conscious attitude must mean to it, and not only must the remote antecedents be known, but particularly the immediate setting of the act and the physical condition at the time. All of these conditions present possibilities for almost indefinite modifications and variations in the meaning of such a state of consciousness.

Evidence for our theory from adult experience.—It is, however, true that the expressions of the various emotions, even in adults, are closely related. This is especially true of grief and joy. Many instances could be collected to illustrate how frequently exactly the opposite of the appropriate expression of emotion occurs. For instance, the death of a friend was once suddenly announced to a company of young people who had been quietly talking. They burst at once into violent laughter, much to their chagrin afterwards. A youth throughout his adolescent period found it difficult to keep from crying when talking with anyone, such as his teacher, whom he felt to be his intellectual superior. The slight nervousness aroused by such conversation, not

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finding a ready outlet in easy vocal expression, flowed easily into the co-ordination of crying, though there was really no feeling in any wise akin to tears. He was always greatly mortified that his mental excitement had to take this form. As it became easier for him to express himself, a new outlet was furnished for his feeling, and the tendency to cry gradually left him.

We have ventured to make this digression because, if it is true that in the relatively mature mind there is a possibility of little control over the pathways of nervous discharge, so that an unemotional fund of energy may assume an emotional expression; and if, further, real sorrow may find outlet in forms ordinarily the expression of joy, it is certainly not unlikely that the seemingly unaccountable and inconsistent expressions of emotion in the infant, provided they are correctly reported, have little emotional significance. It is at least entirely possible for them to be mere mechanical responses to stimuli—responses that have no meaning one way or another to the child, or at least an undifferentiated meaning. As age advances, however, and objects begin to have a definite meaning through the doing of many things with them, or the seeing of them at many different times, they can begin to have a basis for real emotional values, and the child's reactions toward them will have real emotional significance.

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The so-called astonishment of infants.—We have thus far confined ourselves to expressions of fear or dissatisfaction and the opposite. Other forms of early emotion, however, may be interpreted in the same way. Astonishment, for example, is regarded by Preyer as a very early emotion, and one of fundamental importance in the development of mental power. He mentions the following case:

> When the child was in a railway carriage, and I suddenly entered, after a brief separation, so that at the same moment he saw my face and heard my voice, he fixed his gaze upon me for more than a minute, with *open mouth* (the lower jaw dropped), *with wide-open, motionless eyes,* and in other respects absolutely immovable, exhibiting the typical image of astonishment.[1]

Several other instances might be given from Preyer and others. In general, the expression is one of open eyes and dropped jaw. Here, instead of a definite feeling of astonishment, it is more probable that we have before us something like this: A comparatively complex situation is presented—the father suddenly entering the railway carriage and speaking the moment he is seen. The situation is not one containing any violent stimuli, such as would arouse an instinctive reaction in the form of fear. The situation does offer the possibility of several sorts of mild reaction,

[1] *Op. cit.*, p. 173.

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and the stimuli to them, being presented all at once, are all checked and the child, as it were, hangs relaxed; the appropriate reaction does not come. Of course, this is what astonishment really represents in the adult consciousness, but the advantage of our stating it in this way for the infant makes it clearer how here, as in the case of expressions of fear, there is not necessarily any indication of a true emotion. Preyer notes that these symptoms of astonishment gradually became less and less frequent, and assigns as the reason that the child had been astonished so many times that he had gradually become used to new impressions.[1] It is dreadful to contemplate the possibility of such infantile *ennui* in the face of the strange, beautiful world it has scarcely as yet entered. Preyer's so-called early astonishment ceases because the child gradually attains the ability to react in many new ways, and in the presence of many new impressions he is no longer at a loss, as at first, for the proper reaction.

Another early emotion mentioned is sympathy; and here, as before, it is very doubtful if we are not carrying over a highly complex attitude of adult experience to explain some very simple reaction in child-life. Preyer tells us[2] how at two and a quarter years, in looking at some little pigs, his

[1] *Op. cit.*, p. 174. [2] *Ibid.*, p. 168.

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boy screamed and turned away in fright when he saw them begin to suck at the teats of their mother, who lay in the sty perfectly quiet. It appeared later that he thought they were biting their mother. Here we probably have the beginnings of a genuine emotion of fear. The sucking of the pigs could easily suggest to a child of that age the idea of biting, which sets up or mediates a reaction resulting in fear. That is to say, the vivid idea of biting was set in a certain emotional complex of previous experiences, and this is stirred up the moment the idea is suggested. Although Preyer does not cite this as an example of sympathy, it is just such an instance as is often brought forth to prove the presence of strong sympathetic natures in young children. Here the child does not cry because he feels sorry for the old sow, but because he becomes vividly conscious of the significance to himself of an experience of being bitten. Here, again, the reader will say, this is exactly what sympathy is in our adult experience, but we will note it is, in the child, probably entirely lacking in the objective reference which is such an essential element in all real sympathy.

Baldwin reports[1] as instances of the early development of sympathy that his child cried

[1] *Mental Development in Child and Race*, p. 333.

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in her fifth month when he pinched a bottle cork (!), "and wept in her twenty-second week at the sight of a picture of a man sitting weeping with bowed head in his hands and his feet held fast in stocks." So preposterous are these interpretations that they are hardly worth mentioning, were it not that they have Professor Baldwin as their authority. In the first place, we must not hastily conclude that a child's reaction is the result of a given stimulus. In the present cases it is more than likely that the tears were not caused by what was supposed to have caused them. The physical stimulus, moreover, in these cases might be identical for baby and adult, and yet a *sympathetic* reaction implies a reaction, not to the mere physical stimulus, but to an image that that stimulus arouses, that is, to a remote meaning of the stimulus. Now, the question is: *Could* the baby have reacted to the *meaning,* or possibly only to some direct aspect of the presented situation that appealed to the child's unorganized experience? It is incredible, if our previous statements regarding the nature of the early emotional life are true, that the processes necessary to produce even the rudiments of such a state of feeling are present. Thus the reaction, whatever it was, must have been to elements totally different from those that to the adult would have meant sympathy. That

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is, certain elements having no reference to the emotional value of the picture or of the pinching, from the adult's point of view, may have set free the child's reactions. Even adults, who think they are getting the emotional value of a work of art, are often excited by something quite subsidiary, and perhaps quite extrinsic to the real æsthetic impression meant to be conveyed. If we may thus be totally mistaken in our judgment as to the sort of thing that is attracting a mature mind in a certain picture, how much less certain must we be of the sort of reactions we observe in children and what they really mean in *their* consciousness!

The uncontrolled character of the earliest feelings.—We have noted that certain stimuli tend to produce violent instinctive reactions. All the energy of the child drains off into comparatively narrow channels. As co-ordinated activity is gradually built up, there is less likelihood of such violent reactions. The first emotions tend to be of just this character. When the little child does begin to react to the *meaning* of a situation—that is, to have an emotional attitude—he is often paroxysmal because of the very uncontrolled manner of the reaction. There are not enough organized attitudes to check up intense feeling and carry it off into other directions.

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Hence in all children the expression of feeling is usually far freer than in the adult. The emotions gradually evolve from comparative paroxysms to the regulated reactions of an intelligent conscious self to the meanings of certain complex situations.

Conclusion.—The excuse for this lengthy discussion of the child's emotional attitudes lies in the fact that they afford a crucial test for the theory of his consciousness presented above. In no other aspect of the mental life have people been more prone to read their own standpoint into the child. It is maintained, in conclusion, that emotional attitudes are as much differentiated products as any other mental function, and that it is impossible to postulate their presence before there have been built up consciously co-ordinated sets of activity with reference to definite things and persons. We do not attempt to find the first appearance of emotion. The really important question is to discover the kind of a process, or situation, that tends to call for the division of labor that the emotional attitude represents. By starting with such a question we avoid preconceptions, and hence misinterpretations, that invariably result from carrying over the conceptions that have originated in one sort of experience and trying to apply them in another of different organization.

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The true method is to take the experience and note what sort of activity it stands for; how it differentiates and grows in complexity as the demands made upon it increase. We are thus able to define the mental functions that arise in terms of the experience we are studying, and not in terms of some more mature one. We are not concerned with finding in the child analogues of adult events, but in defining the actual divisions of labor that occur in terms of their meaning and significance *in the experience in which they occur*. For instance, it is not nearly so important to label this or that as a case of fear or of volition, as to state its relation to the experience that called it forth. This alone can reveal its true nature.[1]

If the discussion thus far has been destructive rather than otherwise, we have at least cleared away preconceived ideas of child-life and opened the way for a constructive statement.

[1] The author has been accused of inconsistency in maintaining, on the one hand, that his object was to determine in everything the child's point of view, and, on the other, in rejecting as un- or semi-emotional the emotional expressions in young children. These expressions do not, however, of necessity give us their point of view. The attempt has been made in this chapter to show that, because of their instinctive character, they cannot be depended upon in such cases to throw definite light upon internal attitudes. The evidence from emotional expressions must be checked up by what we know in other ways of the organization of experience and, consequently, of the extent to which they can point to definite conscious attitudes.

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CHAPTER V

SUMMARY OF RESULTS. CONSCIOUSNESS AND THE CO-ORDINATION OF IMPULSES

General summary of results. — Thus far the effort has been to get a good working conception of the nature of the infant's earliest mental life. No doubt many important points have been omitted, but at least a method of approach has been outlined that can best be elaborated by each student for himself.

The upshot of the inquiry thus far is this: The newly born infant is at least able to make certain movements. Whether it is conscious or not is purely hypothetical. We know at least that it moves, and that these movements are responses to stimuli of various kinds. Most of its movements are unco-ordinated. There are, however, simple reflexes, and we have chosen to confine the term to those movements which are the result of simple inherited co-ordinations of muscles and neural tracts. There are also a few more complicated co-ordinated movements, such as sucking and grasping, that may be called instinctive. It was noted that all three sorts of movements were alike in being responses to some sort of stimuli. The latter two varieties were

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found to differ chiefly in the complexity of the response involved. It was stated that the neural connections on the whole are only imperfectly worked out in the babe, so that every stimulus is apt to arouse, within limits, a diffused response. The excitation flows out in a haphazard way over the whole body, or at least in apparently useless directions, except where there is an inherited reflexive or instinctive co-ordination, in which case the response is more or less definite.

Consciousness and movement.—We can judge of the consciousness of the child only from what we know of the characteristics of consciousness in general. We know that it is most intense in the midst of obstacles, when new lines of action must be sought out and adjusted to meet the difficulties. As long as our activity goes on without break, reflexly or habitually, we are not at all, or only vaguely, conscious of it. It is only as the reflex, or habitual, activity proves insufficient to meet the situations we are in that we become conscious of it and begin actively to examine our conditions to find out how to readjust our activity so that we can proceed. It seems from this that we may safely say that *our moments of intense consciousness* are strictly functional, arising in the reorganization of activity for new ends; and it is likely that a careful analysis would show that *all* our conscious life could be so defined.

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With reference to the infant, if we could define its consciousness *only* as consisting in certain contents, certain emotions or ideas, as involving the recognition of other persons, things, etc., it would be guesswork to say what its character is. If, however, it is possible, as has been done above, to define it with reference to the part it plays in activity, we can turn to the child's active manifestations and tell with some certainty what sort of a consciousness must be a function of such activity.

Impulses the basis for the development of consciousness.—As was stated above, the reflex and habitual activities of adult life are accompanied by little or no consciousness. We are undoubtedly conscious when we are performing habitual acts, but chiefly with reference to some other activity or with reference to the end in view, and not as to the habitual movements themselves. If we turn now to the child, we find no acquired habits, as with the adult, but instincts. Its reflexes are like the adult's but fewer in number. These two classes of movements are both the result of co-ordinations that the child brings into the world with him, and hence he has had no conscious part in their formation. Neither in their origin nor in their working can we assume that consciousness plays any neces-

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sary part, because, as has been pointed out, it does not *merely accompany* the processes of activity, but arises for the purpose of directing it and readjusting it. Reflex and instinctive acts do not have to be directed (and ordinarily not readjusted); hence we have no right to assume that these mechanical movements are any more conscious in children than in adults. If the child is conscious, it must be with reference to the other sort of activity, namely, the impulsive. *In these unco-ordinated movements, then, is the basis for the development of consciousness.* As mere unco-ordinated responses they are, of course, no more present in consciousness than are the reflex and instinctive movements, but they form *the raw material for adjustments.* They are something that can be molded, that lend themselves to adjustment in varying situations. We may take these from the start as the indices to the nature of the conscious life. As long as the only co-ordinations are hereditary, and all other movements are purely impulsive, we can think of the child's consciousness as being only of the most rudimentary sort. Co-ordinate with every adaptation of an impulse to an end, however, a more and more definite consciousness arises.

We have next to note *the process by which*

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impulses become adapted and consciousness defined. If the child, in throwing its arms about, chances to strike something, its movement is arrested. The checking of the movement must make the child more definitely conscious of it. If the checking of the impulsive movement results in doing something with the obstacle, the movement has made the first step toward organization; perhaps it is a block or spool on which the baby's hand has chanced to fall, and it is picked up instinctively and carried in an instinctive fashion to the mouth. But the purposeless impulse has here accidentally served an end, and if the child is afterward any more definitely conscious of this movement than at first, it is no longer as *mere* movement, but as movement-stopped-by-something. Perhaps it is assuming too much to think of this effect being produced at first. We cannot doubt, however, that in the child's haphazard excursions many such accidents will occur, and that it is just such incidents that make the various movements stand out from one another in the child's consciousness. As soon as movement stands out, that is, as soon as the consciousness of it is interwoven with something that is *not* movement—or, we may say, as soon as consciousness is not of movement in general, but some particular kind of movement—we have the basis

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for indefinite advance. The child at first by no means recognizes a separate object; its consciousness is not that of movement plus object, *but of movement different in some way;* out of the vague, undefined consciousness a conscious-complex has arisen.

The first co-ordinations to arise are, of course, extremely simple, as ability to use the eyes together, and later to gaze at some object, such as a bright light, or to follow it with the eyes. But in every case we have at first accidental, impulsive movements, and we cannot doubt but that as the movement becomes co-ordinated, consciousness itself becomes more definite. In the formation of these simplest co-ordinations it is not easy to see how an intensification of consciousness is really involved, but the process is the same as in the more complex cases where there can be no question as to its being produced. We are, therefore, surely justified in regarding the first beginnings of the complex conscious life as consisting in the formation of these simple organized movements.

First conscious life an unspecialized one.—We have then, in the child, a consciousness of the kind above described—a consciousness in which the division of labor has not proceeded far enough to warrant our selecting one element in a reaction,

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e. g., a feeling or an idea, and describing the reaction in terms of it. In this undifferentiated consciousness, as we have seen, true emotions are necessarily of the most rudimentary description, an emotion, like an idea, being a developed, complex product, not a primary datum. The various expressions of the child in the first few months, which have usually been interpreted as evidence of emotional states, as we have shown, need have no such significance. In a word, the infant starts with direct impulsive unco-ordinated responses to all sorts of stimuli. Its conscious life increases in definiteness and in variety as the ends to be realized present increasing difficulties of adjustment.[1]

[1] It is not meant that mental growth is *merely* the result of the differentiation in mental function. The effort has rather been to show that it is possible to state the changes of the mental life in terms of its increasing adequacy of reaction to more and more complex situations. The *origin* of this increased efficiency may be dependent upon the appearance of an instinct hitherto undeveloped or, perhaps, upon the actual elaboration of functions already in use. In many cases an act attributed to an instinct is far more definitely and intimately related to some immediate situation; and the extent to which it is a functional adjustment entirely independent of instinctive adaptations is certainly a question worthy of investigation. A sexual instinct no doubt appears at puberty, but who shall say that the overwhelming changes which occur also at this time of life are not rather functional adaptations than the manifestation of instinctive tendencies. But, however this may be, our point is simply that the real significance of a mental event is in present function.

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CHAPTER VI

OBJECTS OF THE CHILD'S WORLD

The objects of consciousness related to the organization of consciousness. — We have described the *sort* of a consciousness that the infant has, *how* it arises, and how it becomes enriched. We may now ask the question: *What* is he conscious of? The answer has already been suggested in the previous chapter. If we were starting, as did the older psychologists, from the side of certain static contents, there would probably be no necessity for asking the question at all. There would be no reason for assuming that the child is conscious of anything different from the adult, that is, of things, objects, people, ends to be reached, dangers to be avoided, etc. From our point of view, however, we are obliged to say that the objects of the infant's consciousness vary with its organization. The content of its experience when its hand is first accidentally arrested by a block is certainly not the same as that when it has learned to recognize the block by sight, reach for it, and throw it. According to the older psychology, the first experience might be different from the second simply in degree; that is, there

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would be less of it. From the point of view here presented what an object is to the baby or child depends entirely on the part it plays in his experience, and its part in his experience is determined by the sort of experience that reacts upon the object. Thus, as stated above, the degree of development of consciousness is an essential factor in determining the sort of object that enters into the child's consciousness.

In brief, the first objects of consciousness are activities. These activities differ from one another in kind, because they deal with various external objects. The external objects the child knows not as such, but only as certain modifications in his activity. As the variety of possible reactions with a single object increases, it begins to stand out as a thing, and yet it is recognized only as a means or stimulus to a given act, and not as having any meaning in itself. To illustrate: The baby has first a mother-experience, but this is no evidence that any individual mother is recognized. However, as the mother figures in many different experiences, she gradually comes to stand out as a person, but even yet her sole meaning in the infant's consciousness is as a person-through-whom-certain-food-and-entertainment-experiences-may-come. The mother is not abstracted as an individual from the experiences

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she mediates. The emphasis is still on the side of the activity. The mother as an external object has no independent import. After a while the mother is still further abstracted and comes to be thought of, less with reference to the experiences she makes possible, and more as a part of a complex system of ends that are to be attained as a whole, among which are the doing of things for her pleasure, etc. Here the emphasis is first of all on her as a person, and later as a person who ought to be acted toward in a certain fashion.

Stating the course of the above development more explicitly, we find that the objects of consciousness are at first simply certain movements; later, combinations of movements which certain things have come to symbolize, the things having no significance, except as standing for the complex of movement. The following instance from Mrs. Hall of a child nine months old illustrates the point:

> The child struck a cup with his spoon, and liking the sound repeated it several times. He then struck a sauce plate. As this gave a clearer, more ringing sound, he at once noticed the difference. His eyes opened wider, and he hit first one and then the other as many as twenty times.[1]

Here the new experience with the cup and sauce dish meant simply a new activity, and the

[1] *Child Study Monthly.* Quoted by PROFESSOR DEWEY in *Mental Development in Early Infancy,* p. 77.

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sight of the objects tended to set the activity free over and over again. When any object such as a block is handed to the child, and he throws it down as often as it can be returned to him, there is no question but that his consciousness is absorbed in the activity. The object to him means a process of throwing. When any object is seen, it suggests at once certain reactions toward it; the *feeling* of these reactions stands for the value of the thing as presented to consciousness. The thing may here be said to be an emotional whole; that is, its meaning is made up of how it feels to act toward it.

At a later date the thing is not merely the representation, or symbol, of certain reactions; it suggests the doing of many different things, some of them remote from its immediate implications. For example, a child will at first aimlessly open drawers, turn door-knobs, etc.; later the sight of the drawers or of the door-knobs calls up the image of a further activity; the emphasis shifts from the feeling of mere manipulation to the larger activity that the manipulation of the object makes possible—for instance, taking things out of the drawers, opening the door and bowing and saying, "How do?" Even here the emphasis is rather on the activity than on the thing. The thing is still interesting because it sets certain

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activities going, now a little more remote or complex than in the first cases mentioned above, where the object invariably stands for a direct response.

The next step is when the thing stands for a great many lines of action, and, as their common element, it, for the first time, receives the emphasis.

We have made no attempt to locate these different attitudes in months or years. No doubt one attitude is gradually displaced by another, but there is also no question but that in the first years of childhood all the attitudes may be mingled in successive acts. The emphasis constantly shifts. Now the object is responded to directly; the next moment an image mediates a complex of activity with reference to the object. To know what an object means to an infant we must study its method of response toward it. The point here is to show how the nature of the content actually varies with the organization of the experience. Speaking roughly, the contents of consciousness have no objective reference as long as there are no conscious co-ordinations of movement. It is probable that the emphasis remains very largely on the activity rather than the thing until five or six years of age. Later

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things, as such, stand out; and still later the complex system of ends, which they may serve, comes to be interesting.

It is, however, only the first one of these stages that belongs to the infant as discussed thus far.

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CHAPTER VII

FIRST DIFFERENTIATIONS OF EXPERIENCE

The mental functions as such at first not present.—The aim of this inquiry is not to look for static contents, such as ideas or volitions, but rather for successively more complex adaptations of consciousness to increasingly complex ends. This will help us to avoid the fallacy of isolating mental elements as existences that are more or less complete in themselves. Strictly speaking, the child never has ideas or feelings, but in every case there are entire reactions in which all these elements are so involved as to be almost incapable of being separated, a thing for which there may be some justification in an adult consciousness. When we talk of a child's idea, we are dealing with something so inextricably bound up with emotion and volition, and more than all with motor reactions, that it is hopeless to try to catalogue it as a content. We can only say of the process in hand that it arises in such a situation and performs a certain function. We thus do not do it the violence of trying to label it according to its most prominent characteristic, ignoring the others as mere appurtenances that

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it were really better to lop off in order to get at the real, the essential content. In defining it functionally we recognize every element of the complex as essential and valid, as having a meaning in the activity in which it occurs. The state itself is a unit, and must be treated so; its complexity can be defined only on the side of its use in the entire activity.

The mental functions arise with reference to the necessities of action.—The problem, then, is to note how the consciousness of the child becomes gradually adapted to the conditions of complex activity. The first step beyond a purely impulsive act is the effort to control the stimulus; that is, a movement is set on foot to get the stimulus again, or to hold it when once obtained. Probably no simpler case of this kind can be given than of the effort of the child, when once its eye has fallen upon a bright object, to keep it fixed on it. This sort of an act is different from that in which the gaze is fixed on a stationary object, or when it is shifted from one stationary object to another.

The following from Miss Shinn illustrates the gradual co-ordination of movements in the case of her little niece:

On the twenty-fifth day, as she lay wide awake and comfortable in her grandmother's lap, staring thus at her

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face, with an appearance of attention, I leaned down close beside so as to bring my face into the field of vision. The baby turned her eyes (not head) and gazed at my face with the same appearance of attention, even *effort*, in slight tension of brows and lips; then back to her grandmother's face, again to mine, so several times. . . . . At last she seemed to become aware of my red gown, or the lamp light striking the shoulder, and not only moved her eyes, but threw her head far back to look at my shoulder, with a new expression, a sort of dim interest, or eagerness. . . . . The nurse, who was a careful observer, said that the baby followed the motion of her hand on the ninth day. I could not satisfy myself that she did, even as late as the fifth week; her eyes seemed sometimes briefly to follow the moving hand, but she was so active, moving head and eyes constantly, that I could not trust the appearance. . . . . On the thirty-third day I tried a candle, and her eyes followed it unmistakably, rolling as far as they could, and then the head was turned to follow still farther. . . . . In the fifth week, too, when held up against the shoulder she would straighten up her head to see around; and thereafter looking about, as if to see what she could see, became more and more her habit, and, together with gazing at faces, was her chief occupation till grasping was established.[1]

Such instances might be given for each of the other senses.

The infant's overt activity our only point of departure.—As we have said repeatedly, our only real datum in a case of this kind is the movement itself. The only thing we can say with some

[1]SHINN, *Notes on the Development of a Child*, "University of California Studies," Vol. I, p. 16.

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certainty about a movement is that it is more or less complex than another. Our hypothesis is that in the co-ordination of spontaneous movements consciousness is the more definite the more intricate the co-ordination.

The mere turning of the eye toward a prominent object in the field of vision, as in the first instance just mentioned, can hardly be more than a reflex. It appears much the same sort of an act as the closing of the fingers about a pencil, if it is placed in the baby's palm. Even the turning of the head back and forth from one face to the other, and at last to the dress, may be due to the conflict of stimuli within the field of vision. The object in the center of the field would, so to speak, exhaust itself and the surrounding objects become relatively more important; hence the gaze would be fixed on them in turn. In this case, however, an image of the grandmother's face may have persisted while she was looking at the aunt's, and *vice versa*. This image may have been reinforced by the presence of the actual face on the outskirts of her field of vision. If there was such an image, it must have served as a stimulus to turn the head back and forth. The following of the moving candle with the eyes and head involves a slightly more complex co-ordination; the ability to hold the eyes on the

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stimulus, and to turn the head so as to get it again when it had passed beyond the reach of the eyes, points to the presence of a consciousness of the sensation, not *merely* as a sensation, but as a sensation to be kept or to be found again. The last case mentioned—that of holding up the head and looking about—is clearly a case of effort to get stimuli which are recognized as existing, but which must be sought out.

Consciousness and the control of stimuli.—There are two main points here. The first is that the spontaneous, undifferentiated activity of the child has even now at the fifth week begun to differentiate, to adapt itself to the conditions of more adequate activity. The second is that there is probably here present some sort of a consciousness of the value of a stimulus not present, and this consciousness produces an effort to get that stimulus. We may say with some certainty that the effort to get a fairly definite stimulus, or to hold it when obtained, is at least evidence of the presence of something more in consciousness than a mere feeling. The moment there is an adjustment to be made that is not provided for in the inherited reflexes or instincts, that moment we must have the beginnings of an organized consciousness. This persistence of a previous stimulus in consciousness we may call

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an image, and we may note that the sole aim of its persistence is to get itself reinstated as sensation. There is no such thing as the carrying over of a previous activity, except with reference to further experience. The necessity of controlling a stimulus is the essential basis for all mental differentiation, and the means of differentiation is the persistence of value of the past act or sensation that furnishes a stimulus for a new or further activity. Perhaps every act persists, or leaves its image, but it is not until this image functions, or is used, not until it directs further activity, that we can say that consciousness has increased in power. This may begin to occur very early; as we saw above, by the fourth or fifth week.

We may repeat here what we have tried to emphasize before: namely, that it is useless to attempt to say when consciousness begins, or when there is memory or volition or any other "mental power." We cannot say that at that point the child was incapable of having ideas and at this he begins to have them. We can only say that, *whatever the child has had previously, he here and now has his knowledge attitude defined more clearly, or here it is more necessary that such an attitude should exist than it was then,* and we can tell how it has been necessary in terms of the complexity of the accompanying activity.

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The chief significance of any movement its connection with other activity.—Instead of trying to catalogue the child's movements, his various sense-activities, his feelings, etc., as most observers of children do, we should more profitably note in exact order what he does day by day, without any attempt to say what particular point these acts illustrate, watching simply their increasing complexity and the number of elements involved in them. The chief significance of a new movement, a better management of the eye, a sense of position, of creeping, grasping, etc., is not that it simply occurs, but in what sort of an activity it occurs, what it helps to do, why it has arisen. To separate the sense-experience or the particular hand-movement, or talking, or the recognition of color, from the setting in which it arose is to deprive it of its main significance.

Perhaps it is not desirable here to give too many detailed observations. But even if it were, it would be difficult to glean from the literature, as we have it, examples that would be thoroughly satisfactory. Child observers, one and all, have been under the delusion that they are to take in isolation certain aspects of the child's consciousness and describe them in connection with similar aspects at all other times. Thus the development of grasping is described in itself; the same of

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creeping, drawing, etc. Now, there is no doubt that they first show themselves in random and spontaneous ways, but there is also little doubt but that they manifest themselves chiefly as some previous co-ordination furnishes a stimulus that calls them out. Thus creeping originates in the gradual co-ordination of reaching movements with various unco-ordinated movements of arms and legs. These latter, as has already been pointed out, are not absolutely spontaneous and unco-ordinated movements, but rather the fragments of various instinctive adjustments. But even though as separate they are to a certain extent predetermined in form, their co-ordination into creeping is not ready-made but must be worked out by repeated trials.[1] My own observation leads me to believe that learning to creep is essentially a pro-

[1] One of the most valuable lines for infant observation is to note how various complexes of reaction are gradually built up out of impulses and fragmentary instinctive movements. Thus, my own boy learned to shake a rattle incidentally while making the primitive instinctive movement of hands to face. In making these movements, with a rattle clasped in his hand, he discovered the noise it would make and for some time he shook the rattle solely by moving his hand to and from his face. He often struck himself severely about the head with it because of this dependence upon the instinctive co-ordination which worked like a flash regardless of what was in the hand. Only gradually did he find other and simpler ways of shaking it. Later he learned to beat a tin pan but used at first the movement previously acquired with the rattle, that is, he beat

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cess of the trial-hit-miss-type. In these trials we must certainly take into account the stimulus that comes from seeing objects to be reached and grasped. Not that they stimulate creeping; they rather define it, so that it becomes more than a mere impulse. We are not interested so much in when a child stands alone as how, standing alone, the second time is connected with what else he is doing. Neither are we as much interested in *when* a child first says *man* as in knowing *what* he was doing at the time that made him say it, or what he did afterward *because* he said it.

It is the entire act that is important; and the *drawing activity,* or the *talking,* or the *grasping,* is chiefly significant in the way in which it helps to make a more complex act.

The mental functions specializations in com-

it with a sort of a scraping movement. He did not beat the pan directly but only incidentally while shaking his arm as with a rattle. After a while, from indirect beating he came to strike it directly. He had learned before this to slap the tray of his high-chair with his open palm and acquired great skill in this as well as in striking pans in the same way. But when an object, as a spoon, was in his hand he invariably struck it with the side movement he had learned to make with the rattle. The simplifying of movements is well illustrated in the development of a little habit of striking his lips while making the sound of *ah,* a peculiar succession of labials being produced. At first he did this with both fists together, then gradually began to use the right hand, and finally did it with the forefinger of the right hand.

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plex activities.—Let us, after the somewhat long digression, return to the baby's act of following a moving object with the eyes. We said that such a simple act of controlling a stimulus was made possible by the persistence of a previous activity, and this we called an image, in so far as it served to produce a further activity. The new act is not impulsive, as the previous ones have been. The form of the impulsive act is always uncertain. The act resulting from an image bears definite relation to its stimulus.

We can see here how the types of mental activity—feeling, ideation, and volition—are but different phases of this effort to control or get a certain stimulus. In proportion as the effort is little or the co-ordination necessarily simple, we should naturally expect these types to be correspondingly vague.

The consciousness of the organization of the act with reference to this image is sensation, feeling, or emotion. The image is idea in so far as it furnishes a cue for a new adjustment. The direction of impulse by this image is volition. The image is emotion, so far as it contains the value of a previous activity. In every act we thus have all three aspects of consciousness. We can see, then, how erroneous is the view that the sensory side, or the feeling side, develops first,

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and that volition and ideational processes, such as memory, imagination, and reasoning, come only later. As we have tried to show, every act contains them all, and while in a given act the consciousness may be directed more to one aspect than to another, so as to warrant our saying that here is an emotional act, there an intellectual act, it is impossible for one to be defined, or become definite, and not the other.

Illustrations from Miss Shinn.—The following instance from Miss Shinn[1] is a good illustration of the progress made in the complexity of the act: "The first unmistakable recognition of sight alone was on the eightieth day, when she smiled and gave a joyous cry on seeing her grandfather enter." This is given by Miss Shinn as an instance of the recognition of a person by sight. Its chief significance for us lies in the complexity of its organization. Here the baby has, without doubt, an image of herself playing with the grandfather. This image is the basis for a certain adjustment which from its very intensity comes to consciousness as joy; for, as we said above, feeling is the consciousness of the organization of the act with reference to the image. Or the image may be said to be the emotion, in so far as the adjustments of the previous frolics

[1] *Op. cit.*, p. 15.

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that it stands for come to consciousness with no further activity immediately possible.

The way one act reinforces another, and hence makes still more complicated mental processes necessary, is well illustrated in the results of the development of grasping. Quoting from Miss Shinn again:

> At just sixteen weeks old (one hundred and thirteenth day) she made a near approach to deliberate grasping; she looked at her mother's hand held out to her, and while looking made fumbling motions toward it with her own hand, till she struck it, then seized it and tried to carry it to her mouth; and twice again on the same day I saw her do this. She would not aim a grasp at the object, under visual guidance, but would look at it, move her hands vaguely, as if feeling for it, then strike them toward it with fingers open till they touched; then she would take hold. She looked more than before at the objects held in her hands, but still vaguely; and indeed the whole process had a vague and mechanical appearance, as if there were little volition about it. The one hundred and fourteenth day she got hold of a good many objects by a kind of vague clawing at them, looking at them more and more as she did so.[1]

Here the sight of the mother's hand undoubtedly aroused an image of a previous act in which a seen object was grasped—a vague image of course, but unmistakably there, for the hand responded to it. Here the activity is much more complex than before, because two previously

[1] *Op. cit.*, p. 313.

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independent acts interact through an image. The sight stimulus is controlled still better by being co-ordinated with a hand-activity through an image of an act in which the eye saw an object that was being touched more distinctly than usual. Here, by chance perhaps, the seen object suggested the grasping experience, which was at once initiated. Immediately before this there had been no noticeable interaction of sight and touch. Miss Shinn says:

> I now watched vigilantly for the first sign of any visual guidance; but for some time in vain. The baby continued to touch objects either by accident, or, perhaps, by fumbling for them, looking in some other direction inattentively; but the object once felt she would seize it with clear intention and carry it to her mouth. If by chance her eyes did turn toward the object, it was with entire inattention.[2]

This illustrates admirably the way in which one activity can go on parallel with another without any assistance from it. But the child has about gotten to where grasping must be better regulated. It is too uncertain to have to depend on fumbling to get objects. The time is ripe for the eye to enter and assist in the business. Miss Shinn's account of how it proceeded is most admirable:

[2] *Op. cit.*, p. 312.

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On the ninety-ninth day I noticed that she several times looked down at an object *while* grasping, but never before she laid hold and never with any appearance of attention. In the following week (fifteenth) she quite commonly let her eyes rest blankly on her hands and objects in them, after she had fumbled about till she touched an object and while she was lifting it; then her glance would leave it, and it would be carried to her mouth by feeling only.[1]

Here we have the beginnings of the co-ordination by which the sight stimulus and the image awakened by it can be defined, not only by more seeing, but by manipulation with the hands. Then follows the seizing of the mother's hand, as noted above.

But with regard to putting objects once seized into her mouth, the volition was clear: as far back as the ninety-sixth day her grandmother had seen her open her mouth while getting hold of her rattle, and now it was common; she would open her mouth and put her hand forward as soon as she touched an object, even while fumbling to get a good hold, but never at sight of it.[2]

We must understand volition, in the sense defined previously, as the direction of an impulse by an image, and this unmistakably occurred. The touch of the object with the hand aroused the image of a previous activity in which a touched object became an object involved with the mouth, whereupon the mouth-activity was set up; a simple case of volition, differing from a

[1] *Op. cit.*, pp. 312, 313. [2] *Op. cit.*, p. 314.

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purely reflex act in the fact that a previous experience of touching things and putting them into the mouth was involved, and the persistence of that previous act made the adjustment for the new one occur before the object touched the mouth.

Miss Shinn thinks the first real grasping occurred on the one hundred and eighteenth day:

> I held the baby up before a picture on the wall, which she was accustomed to look at for some seconds with interest. The light shining on the walnut frame seemed to catch her eye; she looked at it, put out her hand a little uncertainly and waveringly, and first touched and then took hold of the edge of the frame I then brought her rattle and held it out some two inches from her hand: she put out her hand in the same uncertain way and took it. In the afternoon she had somewhat relapsed from this attainment; when the rattle was offered her she looked at it, making some sounds of desire, moved her arms vaguely, and finally brought both hands down about it, on either side. As soon as she touched it her movements became definite, and she laid hold of it and carried it skilfully to her mouth.[1]

From this time on, eye and hand work together with even greater precision. No better illustration could be given of gradually increasing complexity in activity, involving with every step the images of past experiences and conditioned by the fact that the values of these past references are available for present activity.

[1] *Op. cit.*, p. 314.

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CHAPTER VIII

DIFFERENTIATION OF MENTAL FUNCTIONS—*Continued*

Summary regarding the development of inter-co-ordinations of hand and eye.—In the acts of grasping described in the preceding chapter we had a series of increasingly complex movements. In seizing an object the baby had first to depend on touching it by chance with the hand, when, of course, the fingers instinctively closed over it. This was a stimulus to raise the object in an indefinite fashion to the face, perhaps by chance striking the mouth. In time the co-ordination between hand and mouth became more definite, as the touching of the object aroused a vague image of the process of manipulating it with the mouth. But it is cumbersome to depend on chance, or a vague image of movement, in grasping an object. There clearly cannot be a very adequate development of hand-movements in entire independence of the eye. We have seen how the baby begins to look vaguely at the object grasped *after* it has touched it; then, a little later, to look *before touching* and feel vaguely after it. The hesitating movement, however, ceases the moment the object is grasped, for the already

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familiar hand co-ordination is at once set up. The next step is for the eye to assist the hand in getting very rapidly all sorts of new co-ordinations. That is, the eye not only assists the hand in getting its stimulus, but it guides it to new and more complex ends after it is stimulated. After an evolution of this kind, when the baby sees the rattle it is not merely a *seen* rattle, but a rattle that has been handled in various ways, and the visual rattle serves to set going a lot of manipulatory activities. These, as they become more and more complex, require increasingly the presence of images of previous acts to effect the adjustments necessary. It is when the child is looking at the rattle, and for the first time vaguely reaching for it, that he is most acutely conscious of his past adjustments in dealing with it. But after he has learned to grasp it easily as soon as he sees it, there is no need for the persistence of any imagery, for the sight of it immediately sets the hand co-ordination to working.

Images at first vague in reference, then more definite. — As various new experiences gather about the rattle, the sight of it tends to call them up, as so many problematic elements; but as they become familiar the images necessary to set them free become less vaguely present.

This may be well illustrated by the way a

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baby learns to remove a cover from a box that it can easily handle. The cover comes off by chance at first. When this happens, the complex of sensori-motor experiences with the box is enriched by a new element. As the baby fumbles with the box and its lid, the vague presence of the usage of the box with its cover on renders some direction to the random movements. Finally, in a somewhat chance fashion, the lid gets on the box again. Here another element is added to the box experience, because a new activity with the box has been chanced upon. The image of the sensori-motor complex involved in taking off and putting on the cover of the box persists from moment to moment, as long as there is any difficulty in getting the thing done, being itself rendered more definite as the act is repeated. The successful parts of the different attempts tend to be gradually sifted out as the act is performed over and over again. Such a newly discovered co-ordination is usually repeated many times, each repetition making the image stand out more definitely, and the act itself in consequence becoming easier. When the co-ordination is thoroughly worked out, the mere sensory stimulus of sight is, as was pointed out before, sufficient to produce the act.

It is safe to say that the infant really never

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has mere sense-stimulations or mere motor responses, but always a more or less complex union of the two.[1] It is not conscious now of a visual sensation, now of a motor response. The seen or felt object means an act, the value of which, in certain cases, can be recalled to help define a new activity. The more complex the new response sought for, the more complex must be the part played by the values of previous acts, or sensori-motor co-ordinations. It was shown in the preceding chapter that it is this gradually increasing complexity of the functions of the image, or the past act in so far as it is connected with further activity, that we call intellection, emotion, and volition. These are simply names for various aspects and degrees of complexity of the reaction of the image on the new act.

Memory.—When Miss Shinn's niece reached out for the grandmother's hand, the presence of the image of previous grasping of a seen object might be called memory. We have no reason to suppose that any previous activities ever came to consciousness, that is, were remembered, except in cases of this kind, where there was uncertainty in the act about to follow. In other words, memory is strictly a function of a certain crisis

[1] DEWEY, "The Reflex Arc Concept," *Psychological Review*, July, 1896.

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in activity. Originally there is no such thing as mere memory, but always a revival of certain elements in a past experience in the effort to get a new experience.

Other intellectual attitudes.—In case there are two different objects to grasp, or the grasping of one involves co-ordinations not represented in the image, we have the beginnings of reasoning, judgment, choice, etc. The act being so complicated, an elaboration of the adjusting apparatus is necessary.

The sight of the mother, nurse, or bottle suggests various experiences with which it is customarily associated. Expectation, or anticipation, is thus at first always connected with recognition. The child recognizes persons and things on the basis of their suggesting some further experience habitually associated with them, and he anticipates on the basis of what he recognizes. Both recognition and anticipation involve a presented experience and an imaged experience which are related as factors in a larger experience. Comparison comes in here with more conscious recognition of relationship. The infant compares different means with reference to the different results they accomplish, and *vice versa.* Recall, for example, the instances quoted of the striking first a cup and then a saucer in order to get two different sounds; or the striking of a plate when the other hand was touching it and when it was not, in order to secure two different sorts of sounds. That is, of course, no comparison in the abstract sense—in the sense of an intellectual operation entirely separated from any practical end; but none the less the consciousness

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of two alternative results to be got by two different acts involves comparison. Or, again, comparison may be seen in the selection of acts to serve as means for the accomplishment of a desired end. This is obvious in the instance quoted of the effort of the child to maintain a standing position and at the same time play with the window shade.[1]

The volitional attitude. — We have already defined a voluntary act as one resulting from the presence of an image in the child's mind. Such an act might be called a controlled one—controlled by the values of previous acts, so that it is no longer impulsive. If we should confine ourselves to the term "control," we should escape many of the fictions that attach to the

[1] "Mental Development in Early Infancy," *Transactions of the Illinois Society for Child-Study*, Vol. IV, pp. 79 ff. The instance referred to is quoted on p. 78 from Mrs. Hall. It is as follows: "The baby [in the tenth month] was lifted up to look through the window, when his attention was attracted by the upper part of the lower window sash which the child could scarcely reach with the finger tips of his right hand. He succeeded in getting a firm hold and in pulling himself high enough to obtain a hold with the left hand also. In this way he raised himself so that he could look over the sash. After a moment, forgetting that it was his own effort that held him up, he loosened his hold and dropped back to his former level. He repeated the previous effort until he had regained his position, when, desiring to grasp the window shade, he again released his hold and once more dropped back. A third time he raised himself; this time he retained his hold with one hand while he pulled at the shade with the other. When he became tired he changed his hands, not loosening his hold with one hand until he had firmly grasped the sash with the other."

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term "volition," and at the same time have a single term that correctly describes what is really a continuous process from birth. Volition is not a new factor that comes in at a certain stage; it is simply a specialization of activity by which the process of growing control is rendered more efficient through the carrying over of the values of previous experience into new acts. "Volition" is then purely a relative term. A volitional, or controlled, activity has its meaning entirely with reference to the degree of mental organization in which it occurs. It is not a something that can be described in and of itself.

Criticism of Preyer's discussion of volition.—Preyer has worked out an elaborate scheme for the development of voluntary activity. This highest class of action is, according to him, preceded by and made possible by instinctive, reflex, impulsive, imitative, and expressive movements.[1] Movement, he holds, can be voluntary only, first, when it is preceded directly by ideas, one of which finally causes the movement; secondly, when the movement is previously known, in a general way at least; thirdly, when it is characterized by a more or less definite conscious aim; and, fourthly, when it may be inhibited.[2] These characteristics

[1] *The Senses and the Will,* Part II.

[2] *Ibid.,* p. 192.

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are probably true of all normal adult volition. The objection to applying them to the child is that it makes an impassable gap between the earlier and later forms of activity. For example, such a description seems to afford no basis for a unity between a voluntary and imitative activity. Preyer's description is applicable to our highly specialized attitudes, but we want not so much to find out what such an attitude is as to discover how the *first specializations* from direct response to stimulus arise. Any such specialization resulting in a control of movement would surely have the same function in a mind of the infant's degree of organization as the more highly developed forms do in adult activity. The function of volition in the adult is to control activity, or, rather, *it is that aspect of an act that represents its direction, or control.* Since in the infant we find, with each increasing complexity of action, a correspondingly increased need of control of the activity, we must regard the means by which it is accomplished as functionally the same as in the adult.

The earlier activity, which Preyer calls imitative, or mere direct response to stimulus, from our point of view is not merely the raw material from which volitional activity is developed; it is rather the volition itself of a life of low degree

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of specialization. To call it simply material from which will is developed is to apply to it a criterion from outside the situation in which it occurs. Each act must be judged with reference to the situation that calls it forth and with reference to the function it serves in that situation.

How arbitrary and meaningless it is to take acts of varying degree of organization and hold one as voluntary and the other as not, according to some fixed standard, is illustrated in the following passage from Preyer. He says:

> Only when both occur together, the representation of the movement, and the expectation of its result, is deliberate movement possible, which, unfortunately, is too often prevented from showing itself early through early training. Often even in the second year we can tell only with difficulty, or cannot tell at all, whether the child acts independently or not—for example, when (in the sixteenth month) he opens and shuts cupboards, picks up from the floor, and brings objects that he threw down.[1]

The difficulty here, from Preyer's standpoint, is a real one. The obstacles to applying a subjective criterion to the child's actions are insuperable. Preyer continues:

> When, on the contrary, at this period he holds, entirely of his own motion, an earring that had been taken off, to the ear from which it was taken, I am inclined to see in that already a sign of deliberation, understanding, and choice, whereas in the mere making of noise—it may

[1] *Op. cit.*, p. 328.

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be by opening and slamming to the cover of a box, or by the eager tearing of newspapers—there is rather the co-operation of pleasure in noise and movement with gratification in the putting forth of power than of deliberation and choice. Yet it seemed to me worthy of note that my child one day (in the fourteenth month) took off and put on the cover of a can not less than seventy-nine times, without stopping a moment. His attention, meantime, strained to the utmost, indicated that the intellect was taking part.[1]

In each activity mentioned in the above extract we have varying degrees of control. There is no reason why an act should be classed as involuntary because it is accompanied by "pleasure in noise and movement" or the "gratification in the putting forth of power." It is to be feared that these concomitants are characteristic of many highly organized adult activities. The eager tearing of newspapers represents a co-ordination for getting certain experiences, which the child expects to get because he obtained them in a preceding act. The image of the previous activity is as surely as present here as in the case of the earring. Pleasure does not cause the activity in the one case, as Preyer seems to think, nor does a mystical fiction called choice supervene in the other. In each case the activity gets a certain control, a certain direction, because a value from

[1] *Op. cit.*, pp. 327, 328.

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a previous activity is available. If there is no deliberation in the opening of cupboard doors, etc., it is because there is nothing in the situation that demands it. There is, however, an element present that, to the situation as it is and to the child organized as he is, serves exactly the same function that deliberation might serve in a differently organized situation and individual.

A further point in Preyer's discussion should be noted before we pass from this phase of the subject. He holds that "willing cannot take place until after the forming of ideas."[1] Here again we have the assumption of the growth of certain powers, or faculties, in serial order. How much better to regard *idea* and *control* as the two co-ordinate aspects of a single act of which, as the image is defined, so its active side, its control aspect, is more adequate, and the control of movement in turn reacts on the image to make it more definite. Aside from actual situations of movement and the constantly recurring necessity of controlling it in these situations, there is no such thing as a development of "ideational, or representative, activity," the association of the idea of a movement with the idea of the object desired as the aim of the movement.

[1] *Op. cit.*, p. 331.

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CHAPTER IX

INHIBITION

Before passing from the subject of the development of control, we must give some attention to what is known as the inhibition of activity. Preyer regards the inhibition of a reflex as an evidence of will in the child, and in this Tracy agrees.[1] Preyer holds that children should be exercised as early as possible in the conscious inhibition of reflex movements, as it has an important influence on the cultivation of the child's will.

The conception of inhibition.—Now, by an inhibition of an act we mean the checking or stopping of it, not by any mysterious force or fiat, but by another act. A voluntary act may be inhibited by another voluntary act through the arising in consciousness of an image that lies back of the first act. A reflex may be inhibited by a violent sensory stimulus. Thus Preyer tells us that he caused the auditory reflexes in new-born guinea pigs to be inhibited by pinching the ears sharply.[2] He also mentions a sixteen-day-old child that was screaming violently, but became

[1] *The Senses and the Will*, p. 227. [2] *Ibid.*, p. 227.

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"quiet in an instant when it was laid face downward on a pillow."[1] He mentions the quieting effect on very young babies of singing and playing on the piano. According to Preyer, however, "we have not here to do with inhibitions of reflexes in the strict sense of the term, but with the supplanting of a feeling of discomfort, along with its motor consequences or a reflex activity, by means of a new impression."[2]

But this is exactly what we have held that inhibition really is—the supplanting of one sort of activity by another. Preyer evidently thinks of inhibition as a fiat of some kind that comes in and simply annihilates an activity, leaving nothing in its place. From our point of view such a thing is inconceivable. Just as in the physical world a moving body can be stopped only by another body sufficiently large, at rest or in motion, with some at least of its elements pointing in a direction opposite to that of the motion checked, so, whatever be the cause of an act, whether psychical or physical, that act can cease only when the energy that stimulates it is exhausted, or when the energy is diverted into other channels.

Activity inhibited by activity.—That this is the most satisfactory way of viewing the facts of

[1] *Ibid.*, p. 228. [2] *Ibid.*, p. 228.

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inhibition we shall see if we review those instanced by Preyer. The case of the screaming child quieted by being laid face downward is clearly, as he points out, a case of the supplanting of one attitude by another. The nervous energy used in crying is diverted and scattered by the change of position. The hushing effect of music is undoubtedly due to the scattering of the impulse to fret or cry through the rhythmical excitation of the entire body by the external harmony. Any excitation like crying—in fact, any emotion or any special activity—involves the centralizing of nervous energy in certain portions of the body. If this energy can be collected in some other portion, or if it can be scattered rhythmically in every direction, the activity is inhibited by another definite act, or inhibited by being dissipated into a diffused activity of the entire organism.

This is the true functional point of view. Every activity is functionally related to the situation in which it occurs. The only way for an activity to cease short of sheer exhaustion is for the situation to change so that a new act appears as a function of the changed conditions. To hold that an act could be stopped by a pure fiat would involve us in the position that there is no organic relation between our activity and the situations in which we exist. If this point of view

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is true, inhibition is by no means an indication of an organized volitional attitude, as Preyer and Tracy hold. Whenever one act checks and takes the place of another, we have true inhibition, whether it be in the infant two or three weeks old or in the adult. Such a substitution of acts becomes evidence of a developed consciousness; that is, one containing a volitional attitude when there is a consciousness of the results of the inhibited act, or when new elements in a situation are realized and sought for to the exclusion of the previous line of action. In other words, a counteracting activity may be set up either to stop the previous activity or because it is itself more desirable. In either case we have simply one act crowded out by another. Preyer mentions the inhibition of the evacuation reflex beginning toward the end of the first year. At the beginning of the tenth month, he tells us,

> the desire to evacuate the bowels was in the daytime, in a healthful and waking condition, almost invariably announced by great restlessness. If the child was then attended to, the evacuation took place invariably not till *several seconds* after giving him the proper position. The child needed so much time, therefore, in order to annul the inhibition by means of his now unquestionably authenticated will.[1]

We really have here nothing different in kind

[1] *Op. cit.*, pp. 230, 231.

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from the case of the child sixteen days old, mentioned above. The reflex is inhibited by the energy being thrown into a new act, involving changes in the visceral, and especially the abdominal, region, resulting in the control of the *sphincter vesicae.* When the child is in the proper position, the innervation that inhibited the reflex must be inhibited by the reinnervation of the reflex. By this statement we perhaps do not add anything to Preyer's account, except to put it from a different point of view; namely, that of regarding the inhibition of an act as always accomplished through the enstatement of another act. When the time comes for the inhibited act to be performed, the interim, which Preyer calls the time required for the inhibition to be annulled by the will, is merely an evidence that the innervation of the contrary act was so strong that a few moments were required to effect the transfer into the now proper channel.

The relation of inhibition to mental growth.—What is the relation of inhibition to the processes of mental growth? As we have seen, it is not a peculiar power that intervenes to stop an act, but simply names the possibility of the substitution of one act for another. It is with this interpretation that we must read Preyer's statement that decrease of general reflex tendency in the

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earliest years is identical with increase of inhibition of reflexes.[1] His use of "reflex" here corresponds in the main with our term "impulsive," or "unorganized," movements. We should say, then, that this means simply that decrease in general tendency to impulsive movements is due partly to the organization of these impulses into definite activities, and partly to the displacement and crowding out of others through these organized activities. The increased inhibition of reflexes is simply, then, the process we have been describing all along—the process in which activity becomes adapted to meet certain ends, and in which irrelevant, and hence hindering, activity is crowded out.

The point of this discussion has been to show that we have here no extraneous elements, no new factor in inhibition, but only a name for the fact that one act may supplant another.

[1] *Op. cit.*, p. 231.

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CHAPTER X

IMITATION

In the preceding pages the mental life has been regarded as arising with reference to the demands of an increasing complexity of action. Our statement has been entirely from the standpoint of the child himself. That is, our emphasis has always been on the equipment of the child, and the way this was differentiated and defined, as he had more and more complex things to do.

The preceding points may be stated from the social side.—This same process can, however, be stated from the standpoint of the social organism in which it is necessarily worked out. This is an important point to keep in mind. The failure to do so has been the cause of many attempts to find in the child the beginnings of a *social consciousness.* There is no doubt but that the beginnings of such an attitude are in the child, but most investigators have sought for it as if it were *one element along with certain other elements of emotion, will, etc.* It has been sought for as one of the elements of the process of development, instead of being regarded as the process itself from a particular point of view.

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The social consciousness is not a separate aspect of consciousness. It is the same consciousness that we have described, with the emphasis on the situation in which it arises, rather than on the individual whose action it mediates. Since mental development is within a social environment, it is itself a process of socialization, and each differentiation of mental function is as much an increase in social consciousness as in individual efficiency.

Imitation a social rather than an individual category.—Since mental development is a socializing process, the more important phases of the interaction of child and society have received special names, as if special forces were here operative, or as if the child had certain special faculties through which he takes advantage of the social values in his environment. Imitation is regarded by many as such a special dispensation by which the child is socialized. Professor Baldwin, in his effort to work out imitation as this fundamental socializing element in human consciousness, has proved, as conclusively as could be desired, the truth of the position we have advanced above, namely, that all mental development may be stated indifferently from the side of the individual or from that of society. He has illustrated the truth of our position by finding

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it necessary to reduce all mental life ultimately to the imitative type. We have held that all consciousness, as it differentiates in a social environment, is thereby socialized; in other words, that socialization is one aspect of all developing consciousness. If this conception is true, Professor Baldwin, by setting up imitation as an ultimate category of the social consciousness, is obliged naturally to make it synonymous with mental development itself. The reasoning is logical, granting the premise, and may be put thus: If imitation is the means by which socialization is effected, it must be a fundamental category of the mental life, since this process is really from one point of view the sum and substance of mental development. The problem, of course, is whether imitation is such a means, and whether, if it is, it is not merely a restatement of that which we are already perfectly familiar with under a different terminology.

Before discussing further this aspect of imitation, let us see if it is susceptible of a functional statement. We have already characterized it as a social category, a statement from the standpoint of society of the process of development, which we have been describing in individual terms. To society practically everything the child does, as it gradually comes to maturity, is

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an imitation of the more adequate activity of older members of society. The child must learn to walk, to talk, to use his hands in certain ways; he must dress, eat, sleep, after the manner of his elders. He learns to read, to write, and to engage in a certain vocation, and probably several avocations, after the copies set by some of the older people with whom he lives.[1] From the standpoint of society a good deal, if not all, of what a child does is easily to be traced to some copy set by environing conditions. He is *constantly* copying the activities, customs, notions, etc., that surround him.

What do the imitative activities mean to the child?—Let us now turn to the child. Does imitation mean to him what it means to the onlooker? With the child the emphasis is not on the copying of a certain act, but on the attainment of a certain experience that comes through the copying or imitating. From the first beginnings of control, the child is seeking to define his experience, to render it more definite. He is on the alert for stimuli that will enrich and enlarge his experience. Every stimulus is a suggestion to activity, at first perhaps merely to grasp some object, later to throw it; later the manipulations of the object by other people furnish stimuli to

[1]CALKINS, *Introduction to Psychology*, p. 332.

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even more complex acts on the child's part. Here the so-called imitative stage begins. He sees an elder writing with a pencil. When he has a chance he picks it up himself and tries to mark on paper. To an observer of the child, here is a case of imitation, but to the child it is an attempt to get a new experience with the pencil through the image furnished by the adult. In other words, to the child's consciousness the significance of the act is not in it as an imitation, but in that it helps define a new experience that is felt as desirable. This point is admirably brought out by Professor Baldwin in the following paragraph:

> Was there ever a group of children who did not leave the real school to make a play school, erecting a throne for one of their number to sit on and "take off" the teacher? Was there ever a child who did not play "church," and force her father, if possible, into the pulpit? Were there ever children who did not "buy" things from fancied stalls in every corner of the nursery, when they had once seen an elder drive a trade in the market? The point is this: the child's personality grows; growth is always through action; *he clothes upon himself the scenes of his life and acts them out; so he grows in what he is, what he understands, and what he is able to perform.*[1]

The so-called imitation on the part of animals may be explained, or rather stated, in the same

[1] *Mental Development in the Child and the Race*, p. 361. Italics mine.

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way. When a monkey lathers his face in imitation of a man whom he has just seen shaving, he is trying to define, so to speak, the experience to himself, which he feels only vaguely through the eye; or we may say that the vivid visual image of the man shaving produces the same activity in the monkey—a result of the fixation of his attention on the shaving. So with the two-year-old girl who twirled an imaginary moustache after the copy set her by a youth who was opposite her at the table. There was a movement of the fingers at a certain place on the face that seemed to be worth something, and the baby girl did her best to incorporate its value into her own experience of sundry hand-movements. She was not *copying;* she was getting a *new experience.*[1]

We cannot doubt but that the child's first attempts to imitate speech are of the same class as described above. He gets more or less vivid images of the activity of other children or of adults. These images, by the very fact that they have been selected out of an infinite complex of images, indicate their affinity to certain impulses to action on the part of the child that are struggling for expression. It is only as he is about

[1]For a valuable discussion on this line, see STOUT's *Manual of Psychology,* chapter "Imitation," pp. 269-75, and particularly pp. 270, 271, 274, 275.

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to walk or to talk or to enter into a complex social organization that the walking and the talking and the social conduct of others attract him and furnish images that help him define his own vague impulses. *The child is seldom or never imitating from his own point of view, but is always trying to straighten out some of his own ill-organized experiences.* True imitation from the point of view of the imitator occurs only when, usually later in life, the actions of another are mocked for purposes of ridicule; and even in mocking it is likely that the imitation is for the purpose of increasing the mocker's consciousness of the ridiculous element itself. The doing of anything another has done renders one more vividly conscious of the character of the other's action—we get its value the better.

Imitation does not thus describe any peculiar power in the child by which he is able to lay hold on social values. It is simply a term for describing from the social point of view what is characteristic of all its mental growth. As we have said, sociality is one of the functions of increasing complexity in activity. Imitation is a category that describes the process of increasing complexity from the standpoint of its sociality. We must always remember that it is a term for the observer only, otherwise we commit the "psy-

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chological fallacy." It belongs exclusively on the side of the stimulus, and since, in a functional statement, we emphasize, not the stimulus, but the meaning, in the experience, of the act produced by the stimulus, we seemingly have no place for imitation as such. We must ask of the imitative act: Does it mean merely copying to the child, or does it have a function in the defining of his experience? The latter is the view of functional psychology and is the truer one.

Confusion of using imitation as a psychological term.—Imitation is not really a term to apply in psychology at all. That it is out of place comes out most clearly when we examine the attempts to subdivide the activity of the child into imitative, volitional, etc. To use these two terms is to confuse two different standpoints in describing a single process. To say that the volitional is, more or less remotely, the outgrowth of the imitative is to describe the child first from the standpoint of the observer and then from his own point of view. It is to describe the child on the social side first at a lower stage of socialization, and later on the individual side when his socialization has become so complex as to be difficult to describe at all. If we start with imitation, we must in all consistency hold to it. There is no place where we can change off to an individual

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category like volition. Professor Baldwin's effort to reduce all mental activity to the imitative type is a perfectly consistent outcome of his starting with that type. Let us remember, however, that all such descriptions are essentially external and do not, strictly speaking, belong to psychology. From the standpoint of individual experience all intelligent action is volitional; from the point of view of society all is imitative.

Professor Baldwin's theory in particular.—There are some details in Professor Baldwin's theory of imitation that we may now examine, since they tend to emphasize the necessity of the standpoint we have here indicated. He holds[1] that when a stimulus produces a motor response which tends to reproduce the stimulus, and through it the motor processes again, we have a case of imitation. He divides such activity into two classes, simple and persistent. By "simple imitation" he describes those reactions

in which the movement does not really imitate, but is the best the child can do. He does not try to improve by making a second attempt. This is evidently a case of simple sensori-motor suggestion, and is peculiar psychologically only because of the more or less remote approximation the reaction has to the movement which the child copies. Real, or persistent, imitation, on the other hand, is the reaction that will *reproduce the stimulating impression* and so tend

[1]*Mental Development in the Child and the Race*, p. 133.

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to perpetuate itself. When a child strikes the combination required, he is never tired of working it. H. found endless delight in putting the rubber on a pencil and off again, each act being a new stimulus to the eye. . . . . By persistent imitation [then] is meant the child's effort by repetition to improve his imitations.[1]

Let us take a case recorded by Tracy in illustration of the above:

A child eight and one-half months old, having seen his mother poke the fire, afterward crept to the hearth, seized the poker, thrust it into the ash pan, and poked it back and forth with great glee, chuckling to himself.[2]

According to Baldwin, here is a visual stimulus —the mother poking the fire, which produces in the child a motor response of poking the fire, which again gives the stimulus and through it the motor process of another poke, and so on and on. The criticism of this is that the response of the child to the copy *does not reinstate the original* stimulus. The first experience was purely a visual one; the motor response gives an experience, partly visual, but very largely motor. Clearly the child does not reproduce the activity to get the stimulus again, for he does not get it; but rather to define, in his own experience, a certain complexity, hitherto relatively unfamiliar. What the child gets is not a *reproduced stimulus,*

[1] *Op. cit.*, pp. 132, 133.

[2] *Psychology of Childhood*, p. 58.

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but a *new experience.* The act is repeated over and over again, because it is defining a previously vaguely realized experience.

Baldwin's favorite description of imitation is that it is a circular process. As we have seen, it is circular only from the onlooker's point of view. *To the child it is an evolving experience.* If he were only getting over again the original experience, the interest would soon flag, there would be little of the "endless delight" that without doubt does exist. What is a circular process to the observer has been very aptly termed *a spiral process* to the child. He neither gets the same stimulus that his "copy" has given him, nor do his successive acts in themselves repeat the experience he gets from his first act. Each one is a little different from, a little higher than, the preceding one. Each one defines more definitely the implications in the previous one. The emphasis of the child is never on the stimulus, but on the experience. Hence what Baldwin isolates as the typical or fundamental type of activity is really a description, from the observer's point of view, of one aspect of the larger process, namely, the effort of the child to define his experience.

Having defined imitation in this external fashion—that is, in a way that bears no organic relation to the unfolding of experience—he finds

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himself under obligations to call all activity imitative that conforms to this external definition, regardless of the meaning or function of this activity within an experience. For example, he finds certain rhythmic activities in children, such as the walking alternation of legs, or the physiological rhythms of waste and repair, and concludes, since the process they represent is circular, they must also be of the imitative type! If he had defined his terms functionally, he would have been able to discriminate and avoid being forced, by a fancied external similarity, to class together such incongruous forms of action.

Strictly speaking, all mental processes are of the spiral type. Each new act gathers up the values of previous experiences, reinstates them, so to speak, not to get them again, but to rise above them to a new reach of experience. How arbitrary it is, then, to call the child an imitator when the adult is regarded as relatively free. We have precisely the same type of activity in both, but the child gets the worst of it, because his activity is so simple that it can be forced into the external mold, while the adult, who is doing the same thing, that is, reinstating old values for the sake of new ones, is said to be voluntary, intellectual, independent.

Professor Baldwin's rejection of simple imita-

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tion as an imperfect type of the process he is describing arises from the fact that it does not result in repeating the stimulus over and over again. Since he has made his definition of imitation hinge on the circular character of the process, simple imitation falls short, because it affords only one circle of stimulus and response. But if we inquire into the meaning of the act to the child, it would seem that its function in a relatively unorganized consciousness is the same as that of "persistent imitation" in the better-developed mind. This "simple imitation," as Baldwin points out, illustrates how closely allied are imitation and suggestion. In fact, imitation is really a statement from the side of the observer of what suggestion is from the standpoint of the individual. In "simple imitation" we have at its lowest terms the power of the child to define his experience by the various stimuli gathered from his environment. In "persistent imitation" there is really nothing different, as far as imitation goes, from the simpler form, except that there is more of it. Here, as before, there is the taking up of a suggestion for the sake of its value in defining experience.

The problem is in the persistence rather than in the imitation.—The really significant thing is not the imitation, but the persistence. All the

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meaning that "persistence" has in this connection arises from the fact that it has a functional significance as well as being a term, such as "imitation," for the observer. "Persistence" describes the personal attitude of the child toward the values realized about him. It is a personal, an individual category. From the standpoint of the observer, persistence is nothing but bare repetition or bare continuance. To describe any act, therefore, as a persistent imitation is to confuse an external category with a psychological one.

Let us, however, note briefly the meaning and place of "persistence" as a psychological term. Recurring to the instance, mentioned by Professor Baldwin, of the taking off and putting on of the pencil rubber, we may note, first of all, that even to the onlooker the imitation has ceased after the first act. A certain sensori-motor experience has been gained, and the act is repeated, not because it reinstates the stimulus, for it does not do it, but because it reinstates the experience in more definite form. We do not have a circle of "sensor, motor; sensor, motor," nor of "reality image, movement; reality image, movement,"[1] as Baldwin holds, but a succession of acts in which the emphasis shifts so that, externally, now sensation, now image, and now movement

[1] *Op. cit.*, p. 133.

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seem to be uppermost, but in which, as far as the child is concerned, there are simply successive phases of a developing experience; not parts of an act, but complete acts at each successive point.[1] They succeed each other because there are still felt to be present in experience—values not yet fully realized. The persistence stands for that characteristic of experience that tends to reach out and appropriate whatever will define it. It is really unintelligible, in Baldwin's account, how imitation becomes persistent. Why *does* the child persistently imitate? We raise here a fundamental question as to the nature of experience. Whether or not a child imitates is relatively a chance matter; it depends on the nature of his surroundings, their relation to him in his varying degrees of mental development. As a matter of fact, a good deal that the child and man do may be described externally as imitative. But whether there is imitation or not, we still have the persistence as the universal characteristic of all experience. Whether it is imitative or not depends on purely extraneous factors which cannot themselves be originally connected with the individual. The great problem is: *Why is experience always reaching out, persistently trying to define itself more and more adequately?*

[1] *Cf.* DEWEY, "The Reflex Arc Concept," *Psychological Review*, July, 1896.

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Social and individual consciousness. — Before closing the chapter, we may say a word further in regard to the development of the social consciousness. We may repeat, what was affirmed at the first, that the process of mental development may be defined indifferently from the social or individual side. Every act that defines individuality also defines the consciousness of others. There are no "special powers" by which the individual takes up social values. We may legitimately describe the process of the child's socialization by imitation, but, as we have pointed out, we are simply applying an ultra-individual term to exactly the same processes that we have described already from the standpoint of individual development. The final word is that *everything that tends to individualize and define experience tends equally to socialize it.* The two developments are absolutely correlative.

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CHAPTER XI

MORAL IDEAS OF CHILDHOOD

We turn now to examine a few special aspects of the more complex experience of childhood. The effort will be to try to get, in each case, the meaning of the child's attitudes in terms of his own mental organization. The foregoing discussions of the development of experience in infancy will make us the better able to judge of its degree of development in childhood and youth.

The problem of childhood morality. — By moral ideas is meant those ideas which arise with reference to the conventions of adult society, those regarding truth-telling, keeping of promises, respect for rights and property of others. "Moral" is thus used in its original sense as the customary: the body of customs and institutions which has gradually grown up with society through the testing and sifting of centuries—these are the expression of social morality. The conduct and way of thinking of adults are largely governed by this social framework. But what shall we say of children? In one sense they have no moral ideas, at least in so far as they are unconscious of these social requirements.

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But children do certain things in a more or less impulsive fashion—things that would have a moral significance if performed by an adult. Our problem is: How shall we regard such acts, and what sort of ideas concerning adult morality can children be said to possess?

Moral status of the child.—There is no aspect of the child's development more likely to be misunderstood than this, and none on which it is more essential that the parent and teacher be informed. The theory one has on this matter affects very intimately the character of his treatment of boys and girls. It is not merely what they see others doing that affects their future attitudes; it is as much the sort of intercourse they have with others, the nature of the interaction between themselves and their playmates and elders. It is needless to say that an intercourse in which the elder knows how to judge the child's attitudes aright will produce, in so far, a normal development in the child, while the failure to know what his acts mean to him can produce almost limitless distortions in his mental growth.

There are two views commonly current as to the moral status of the baby and little child; the one is that he is totally depraved, the other that he comes "trailing clouds of glory" after him. We might say that a third view, a combination

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of the two, is really the one ordinarily held, namely, that the baby is partly good and partly bad. But neither of these views has arisen through a psychological interpretation of child-life. They are essentially theological in their origin and meaning. The only correct procedure is to analyze carefully what the term "moral," or "being good or bad," involves, and then, by an examination of the form of the child's experience, to determine in what sense he can be said to be moral or immoral.

The moral attitude only an occasional one.—In adult society the term "moral" can be properly applied only under special circumstances, and its meaning varies with the circumstances. That is, it is not a term to be used unconditionally. What is moral with one person or at one time may not be in the case of another person or at another time. The primary cause of the relativity of the term "moral" is the fact that the fabric of society is always changing. The circumstances that induce moral change, or growth, that make a situation moral rather than non-moral, are of the same sort as those that produce intellectual growth. All such changes occur at certain crises within activity and with reference to the necessities for further action. Ordinarily we are non-moral. We perform our everyday duties in a

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direct, unquestioning fashion. Whatever we do in this way we cannot call either moral or immoral. It is only when the doing of one of these things that we have not previously questioned our right to do, comes into conflict with some recognized obligation to our family, friends, or society that we call a halt and examine more carefully the meaning of what we have before done with no special thought. What is its value, how must it be readjusted, or how must the previously recognized duty be readjusted so that there may be no conflict between them? For instance, in society it is recognized that each individual has certain property rights. Perhaps I have been accustomed to keep lost articles of little value that I find in public places, without thinking anything in particular about it. Sometime I find a purse containing a large sum of money. Because of the amount and the possibility of discovering the owner, I realize for the first time I have no right to keep property so acquired. I may conclude to keep the purse, but, whether I do or not, the question as to its disposal, by its having come to consciousness, is thereby raised to the moral plane.

Thus it is only at certain crises that even adults assume the moral attitude. These crises are those that bring us to consciousness of the organ-

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ization of our activity with reference to values that we recognize as of more vital consequence than those which are involved in the mere act of the moment. "Morality" is then clearly a relative term, depending on the system of values recognized at the time and upon the extent to which activity has been organized with reference to these fundamental values.

The two characteristics of the moral attitude.—This digression should make two points clear that are quite fundamental to our appreciation of the child's moral status. For an individual to be on a moral plane, he must have, in the first place, some knowledge of an organization of values beyond his immediate activity, and, secondly, he should feel the relationship of his own act to this broader system. A man's or a child's morality does not depend upon the breadth of the values recognized, but on the *degree* to which they have been brought to bear on the particular acts. It matters not whether it results in the particular act's reorganizing the values rather than in its being reorganized by them. Even in such a case the particular act has acquired a new meaning. Even among the most cultured peoples there are many individual acts that have never been felt to be inconsistent with well-recognized social conventions. As long as they remain unevaluated they are simply non-moral.

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The application to the child.—Turning now to the child, it is clear he cannot at first, nor even well-nigh to youth, have a comprehension of the meaning of the complex system of values recognized by society. He can learn their meaning only by meeting crises for himself and readjusting his direct and unreflective action to ever broader settings. Such a process necessitates years of growth mentally and abundant opportunity for interaction with playmates and elders. Until he has thus grown into this complex life, its requirements must always seem external and, in a sense, imposed upon him. In consequence, there are two sets of problems as regards the morals of children. First: What is the attitude toward grown-up customs and moral regulations? How is their activity modified by the fact of their living in the midst of a social order of whose values they are only dimly conscious, if at all, and yet to which they must to a certain extent conform? Second: What are their own morals, what sort of ideas do they themselves have as to conduct? That is, what crises have they had to meet, and of what values can they properly be said to be conscious? As far as adult values are concerned, the child is non-moral; and yet there are some of these values to which he should be led to conform his own action, even though they

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have little meaning to him. On his own plane of experience he has a limited moral code of his own, and the degree of his adjustments of action to these values that he has himself worked out may be counted his real morality. He sets up narrow standards for conduct, and within his limited environment he assigns to various persons certain places and functions. He is much more keenly alive to the maintenance of the relations he has conceived to exist than we often think. We know of a boy, between four and five years old, who has assigned to his father and mother certain functions each, and is much offended if they transgress. He sees little of his father during the day, and it seems a grave breach of propriety to him for his father to presume to reprove him, while he takes a reproof as a matter of course from his mother. This throws interesting light on the tendency of even young children to build up some sort of a system which they expect to be maintained. No doubt the first feelings analogous to moral ones arise when the child has the impulse himself to break, or sees others break, what has been fixed and habitual in the things that concern him most closely.

Notwithstanding the beginnings of such a crude morality, the child's action is, in the main, direct and impulsive; that is, only slightly, if at

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all, evaluated with reference to any remote ends. They are the simple outgo of energy. As a baby, he kicks and scratches; when a little older he says cross things, tells stories, quarrels, sometimes takes what does not belong to him. In so far as these are direct responses to stimuli or the direct efforts to secure certain ends, they are non-moral. Little by little he comes to mediate these direct outputs of energy by some sort of dim recognition of more remote ends than those of the immediate act—ends which are yet, in some way, involved in it.

This chapter is chiefly concerned with the first of the problems mentioned above. As is evident from what has immediately preceded, the answer to the second problem will vary greatly with each child, especially according to the degree in which his elders understand him on the first point. With some children there is no moral growth, nor even any morality, because of the atmosphere which adults throw about them. They are met at every turn by some dictum that simply says, "Do" or "Do not do this." The result is either blind submission or rebellion, never moral growth. They have not met and decided anything for themselves—the supreme condition of all moral development.

Adult morality more or less external to the

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child.—The status of all children is, however, much the same as regards the attitude toward adult society. They are necessarily largely outside its complex systems of conduct. Until they have learned their value, or meaning, by feeling the need of them in the actual processes of experience, they seem arbitrarily imposed upon them, in so far as they come to their consciousness at all.

A great many things that children do are to be interpreted as efforts to get some order and meaning into what must be largely the unintelligible usages of the adult. Language, the meaning of abstract terms in particular, is a matter that puzzles many little children. They make ceaseless efforts to understand many necessarily baffling words. Many of their reasonings remind one of the seemingly verbal difficulties in which the Greek philosophers were sometimes involved. But to the Greeks such problems were not purely verbal. They stood for honest efforts to define the exact meaning of vague terms. Like them the child is often confused in the midst of complex meanings and activities. Sometimes he tries to straighten things out in his limited fashion. Sometimes, perhaps generally, he ignores the complex regulations in the midst of which he lives and, in the most direct manner possible, seeks his own ends. An excellent illustration of

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the effort to clear up things was furnished by a little girl of four, who was perplexed over the meaning of the word "sometimes." She tried to solve her trouble thus: "Mamma, don't people die of fever sometimes?" "Yes, dear." "I had the fever, didn't I, mamma?" "Yes." After a moment's thought: "But I didn't die, did I?" "No." "Then *that* wasn't *sometime,* was it, mamma?" This illustrates on the side of language what we are getting at on the side of morals. Here we find the best illustrations of our point in the child's attitude toward truth.

Attitude of the child toward truth.[1]—For the normal adult in modern society, within certain limits, truth is a part of his life. But for the child it is a thing to be manipulated, to be juggled. There are various devices by which he thinks he can escape the consequences of falsehoods. Every teacher is familiar with them. Some children think, if the left hand is placed on the right shoulder while telling falsehoods, the evil consequences of the untruth are avoided. Some think they are not bound by promises unless they accompany them with the words: "I may die if I don't." In certain portions of the Netherlands no schoolboy dares break a promise which

[1]For much in this and the following section I am indebted to Earl Barnes, especially for the illustrations.

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he has made while holding up his right thumb. This oath is inviolable. Who is not familiar with such expressions as "honor bright," "upon my word," etc., all of them evidences of the position we have taken that the adult attitude toward truth is foreign to the child? For him it is an external something whose obligations and consequences can be avoided by the use of certain signs and formulæ. Of course, this attitude persists too often into adult years, but it is essentially an evidence of undeveloped intelligence. An ignorant man in taking an oath in court will sometimes attempt to kiss his thumb instead of the Bible, thinking, if his lips do not touch the sacred book, his oath will not be binding.

Attitude toward deception. — Closely linked with this attitude toward truth is a curious delight most children have in deception of some kind. The tendency to deceive seems to be characteristic of all low-grade or undeveloped minds. Stating it functionally, we may say it is the way a relatively unorganized mind reacts in the midst of forces it fails to comprehend, or which it feels it is unable to cope with directly, whether these forces are those of a highly organized social situation, as with the child, or those of nature and opposing tribes, as with the savage. This is one aspect of the attitude that shows itself in myth-

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making. The child, being still outside the great organization of society and not understanding its requirements or conventions, feels, however, the impulse to make some sort of adjustment to them. His own narrow world of values and necessary lines of action is the center from which, and with reference to which, his reactions are adjusted. Of the world's way of doing things he knows nothing. Only by experience will he learn the meaning of truth and its value in accomplishing his ends. He realizes only his end, and sets about accomplishing it by manipulating the bits of social force that he finds within his reach in a fashion such as to bring results as quickly as possible. How is he to *know* when his methods are illegitimate? We may explain thus much of the deception practiced by children, but not all. There is much of it that is purely play, the free interaction of vivid imagery with a simple sense-content. So also with children's lies; some of them are the unreflective efforts of low-grade minds to get control of forces that they cannot meet directly. Others are solely the result of the child's getting his images confused with the reality of sensation.

It is manifestly incorrect to call a misrepresentation due to vividness of imagery a falsehood. The child thinks he is telling the truth. What

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he says has the same meaning in his life as does truth to the adult. He simply has not learned to distinguish between the real and the ideal worlds.

As regards the great mass of *real* deception practiced by children, we must judge it by its meaning to the child and not by its conformity to adult standards. *We must always judge the child from the standpoint of his undeveloped sense of adult values.* If he is untruthful, deceitful, or predatory in his habits, this conduct, we may be sure, simply cannot mean the same thing with his degree of mental organization that it would necessarily mean in a mature experience. We are not advocating that the child be unrestrained in such action, but rather, before holding him culpable, we should try to find the situations into which he has been thrown that have furnished stimuli for such conduct. Normally, the child's methods of reaching ends will not be far different from those employed by his associates and elders. If, in the midst of presumably good surroundings, he uses illegitimate means to satisfy his wants, it is because the proper expression of his impulses is denied him, or because he has been repeatedly misunderstood in what he had intended rightly and by punishment is made all the more vividly conscious of it; the very

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emphasis of the inhibition makes him act in the forbidden manner again. Many a child is confirmed in story-telling and disobedience because his direct, unevaluated action is *interpreted* as untruthful or as refractory by adults. Merely to approach a child in such a manner is to make him conscious of his act as something bad, he knows not what; and when it is repeated, as it surely will be, it is with a meaning it did not originally have to him. Thus a thoughtless imitation, a direct expression of impulse, is forced into the child's consciousness with a sense of the opprobrium that it has for the adult, but with none of the meaning. He repeats it with the interpretation of it he has received from his elders and, in a sense, identifies himself with it.

The impulse toward "bad language." — The child is constantly picking up and "trying on" all sorts of expressions absolutely meaningless to him. We may take as a general law that it is important for an undeveloped mind to be susceptible to every feature of the environment that is in any way connected with the growth it is then making. It is, then, easy to see that the little child, in the years when his language is developing most rapidly, should be almost abnormally susceptible to new and striking expressions. If the expression fits, if it attracts the attention of

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others, it comes to the front in consciousness and is sure to be repeated. If it is ignored by his elders or playmates, it never comes to the focus of attention and probably is permanently dropped. A three-year-old boy in a refined family was once trying to tell his mother and sisters about something, but they being busy did not pay attention to him and several times asked him to repeat his story. Finally he cried out impatiently: "Go to ——! Do you hear that?" He had found the expression no one knew where, and as no one paid the least attention to it, he never said it again. If he had been scolded "for using such naughty words," he would probably have been out with it again at the next appropriate moment.

This does not account for the acquiring of "bad language" in later childhood. Here it is not an unconscious repetition of meaningless expressions, but an attempt to define the experience by the vigorous and striking words used by others. The child feels the force of the language and seeks to get its value into his experience. Even here there would be no sense of badness, were it not for his being made conscious of its significance by the reproofs of his superiors.

Summary.—The upshot of our discussion is something like this: The child is born into a complex social order, of whose values he can have

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no consciousness until he has lived among them and felt their need in the growth of his own experience. We are interested to learn accurately, however, how the child reacts in the midst of these superimposed and external values, that we may be the better able to help in a normal, symmetrical development of his experience. One of the functions of the teacher is to help bridge over the gap that exists between the child and the requirements of society—requirements that he is conscious of, not as unrealized values, but only as external impositions.

Must the sense of disparity be emphasized?—We have thus far endeavored to get a clear conception of the sort of conduct which the child's sense of the disparity between himself and others produces. We have not raised the question as to how far it is best, or normal, for the sense of it to exist at all. How far should the difference between himself and society be impressed upon him? How far should he be dogmatically commanded to do so and so, thus being made to feel acutely the arbitrariness for himself of social regulations? Some people would answer, by their action at least, that he should be made to feel the difference at every turn. Their every attitude toward children is that of dogmatic superiority. On the other hand, a child can

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scarcely avoid feeling the difference sometimes at least. Without any effort on the part of his elders, he is too often painfully conscious of the inadequacy of the means he uses to the ends he realizes. Not a little of the "immorality," so-called, between six and ten is no doubt due to the effort on the part of boys and girls to emphasize a feeling of adequacy to their surroundings in which they really feel themselves deficient. At the beginnings of adolescence, at any rate, the youth does many things, acquires many attitudes of bearing and voice, that help conceal to himself his realized deficiencies of adjustment to things and people. The boastful, overbearing manner of children at this age is to be partly attributed to the half-instinctive effort to conceal their really felt deficiencies by a bold front.

The periods into which the child's life may be divided with reference to moral values are roughly as follows: (1) The impulsive stage, up to the age of six or seven. By "impulsive" we mean the same kind of action that we did when we described the infant's first movements, but here with reference to a different system. Then his movements were impulsive in that they were not co-ordinated to perform even the simplest forms of action. He is impulsive now in that his activities are direct and unco-ordinated

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with reference to an organization of activity as a whole. (2) The stage in which there is some sense of this broader organization of action, but little or no comprehension of its meaning. Hence all regulations, especially moral ones, are felt as more or less arbitrary and unnatural—a system to be avoided or manipulated in so far as it obtrudes itself upon him. This stage extends from about seven to just before the beginnings of puberty. (3) The stage immediately preceding adolescence, in which individual duties and responsibilities become prominent. The child begins to have clearer ideas within his own narrow sphere. That is, the first differentiations of conduct are appearing in that he is becoming conscious in the sphere of his daily life of the meaning and necessity of the social conventions. (4) The fourth stage of the child's morality begins with adolescence, when he comes to be definitely conscious of himself as a part of the community and realizes its conventions as a part of his organized system of action.

Childish cruelty.—A discussion of the morals of childhood would hardly be complete without at least a reference to a common tendency in children to be cruel. The time when animals are most likely to be abused and when the rights of others are disregarded is in many children

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between the ages of eight and twelve. We may account for this in a general way, as some other phenomena above have been accounted for, by regarding it as one aspect of the effort the child in these years puts forth most vigorously to get control of the objects of his environment. This will be discussed more in detail in the chapters on "Interests." Granted that the child here comes to consciousness for the first time of the complex world of objects that are to be manipulated in various ways, and at the same time feels his inadequacy to do what he would like to with them, it is quite conceivable that he should try to express his craving for mastery by harshness to animals. Primarily his desire is not so much to produce suffering in others as to get a vivid sense of his ability to control them, *to do what he wants to do to them.* The fact that the satisfaction of this craving may result in actual cruelty is due to several characteristics of an experience of an imperfect degree of organization. Earl Barnes has summed them up in an admirable manner, and we can do no better than to avail ourselves of his suggestions.[1] The narrow personality of the child is necessarily unable to enter

[1]Syllabus of a Course of Six Lectures on *The Development of the Moral Nature,* Lecture IV. American Society for Extension of University Teaching, Philadelphia, Pa.

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very largely into the feelings of others, hence it is easy for the child to disregard others' pain. This is due partly to "ignorance or inexperience, which produces pain without knowing it." Lack of a well-organized experience, with none of the dominant, centering tendencies of the adult, leads to spasmodic action, in which there is little foresight of consequences. Coupled with these characteristics is "a love of activity and excitement, a hunger for sensations which makes the child do things regardless of others." We must also take into account a special manifestation of the above, namely, "curiosity and experiment which blunts sympathy with the pain caused." Children also have a keen sense of "dislike for excessive individual variants leading to ridicule and the infliction of other forms of subjective pain."

Emotions in general.—As neither time nor materials are available for a separate chapter on the emotional development after infancy, especially on the æsthetic side, we may conclude this chapter with a few general statements as to the nature of the problem. All emotional experience, as we pointed out in the chapter dealing with the earliest emotional life, presupposes a certain development of consciousness. This is particularly true of the subtler types of emotion. The little child may react with pleasure toward

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æsthetic objects and convey the impression that he appreciates the values involved, but the real point of interest is usually one of minor æsthetic importance. The child is apt to be attracted by the coloring of a picture or by some detail that suggests a familiar object.

In tests made on school children by O'Shea,[1] it was found that colored pictures were always preferred to black-and-white ones of the same subjects, and that familiar objects such as cats, dogs, babies, etc., in pictures always excited much pleasure. The chief means of arousing the æsthetic emotions in the adult are remote rather than immediate. A slight suggestion is given in the picture that, by association, calls up things too deep for utterance, the sublimation of years of experience and struggle. The deepest emotional effects center about the fundamental instinct of love in its various forms. This, except in its simplest aspects, is practically in another world than the child's. In general we may say, then, that the subtler emotions, as well as the moral sense, are not something given independently of growth, but, if present, imply a concomitant experience of great maturity and complexity.

[1] "Interests in Childhood," *Child-Study Monthly*, Vol. II, p. 266.

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CHAPTER XII

THEORY OF INTERESTS

Necessity of a comparative study of interests.—A great deal of effort has been expended during the last few years by students of child-psychology to find out as accurately as possible the lines along which children's interests develop. No one, however, has as yet gathered up the material thus afforded in order to see what it gives us as a whole. A comparative study of the material, as it at present stands, is a logical demand, not only that we may get the additional enlightenment that always comes by the combination of hitherto isolated facts, but, as well, that the various "results" may check each other, and that there may be a comparison and evaluation of the methods of various students.

The purpose in the following chapters is to make such a comparative study. We shall attempt first to state as clearly as possible the nature of the problem of children's interests, and then to gather together the results of the various investigators of particular phases of the problem, that we may see, if possible, in them some centralizing principle that will unify and make more

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intelligible and effective these results, and suggest, perhaps, lines for further and more systematic study.

General nature of interest.—By interests we usually understand something very closely connected with one's free and spontaneous activities. They are not something existing *per se,* added to the main current of the life, perhaps as a fringe or adornment, but rather the very life itself, in so far as it is an outgrowth and expression of the individual himself. The interests are the *personal* side of the activity that affords more or less of self-expression. Genetically, the activities are probably the primary elements, while the interests, as feelings, are the later, conscious evaluation of the activities. For example, it is doubtful whether the activity of the newly born babe in getting food is sufficiently conscious to be called interesting to the actor. But as self-consciousness grows, the activities that before occurred reflexly or instinctively begin to have their self-evaluation. The problem of interests is thus closely connected with that of activity. A child's activities are the only index by which we can really judge of his interests.

For our study we need only note that interest may be taken to mean the mere feeling accompanying a certain sort of an act, or, more

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broadly, as practically synonymous with the activities themselves; or, still further, as the organized disposition from which various lines of action flow. These different applications of the term do not imply different psychic phenomena, but are rather descriptions of the same subject-matter from successively broader points of view. Just as the particular act has its self-side, its feeling of "my-own-ness," so an organized series of activities in the very fact of their organization imply an organized disposition of which they are the expression. This organized disposition is the "self-side" of the series of acts in the same sense in which interest in the narrower sense is the personal evaluation of the single act.[1]

The question of origin. — The preliminary questions for us to consider regarding children's interests in this broader sense are those regarding their origin and the extent to which they are modified or produced by the processes of growth, by environment, and by heredity. The light we get on the question of origins will determine very largely our attitude toward the specific interests themselves. The presence in the child of certain tendencies to particular kinds of activity has been the subject of so many sweeping generalizations

[1]For a full discussion of the psychology of interest see DEWEY, "Interest as Related to Will," Second Supplement to the *Herbart Yearbook* for 1895.

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that it is worth while to analyze the whole subject and see what we can really say about it and what we cannot. A great many of the tendencies to action that we shall have to consider are usually accounted for in a vague and useless fashion by being described as recapitulations from early race-history. We shall attempt to state them in terms connected with the immediate life-processes of the child itself. If such a statement is possible, it will certainly be more illuminating than one in which the emphasis is largely on the past.

The culture-epoch theory—a criticism. — It is popular to pick out certain activities in various periods of childhood, such as those centering in predatory organizations or in animals, or those calculated to deceive others, and so on, and to regard them as chiefly significant in their reference backwards to lower stages of culture. They are seldom regarded as having any functional or organic connection with the present. In other words, in a child of a given age, certain activities are singled out as having recapitulative significance, while there is left over a lot of other activity, and that usually by far the largest part of his daily life, that is accorded no such distinction. It comprises just the ordinary direct reactions of the growing child to his everyday surroundings.

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May not such a separation of the child's life into radically different elements be due to a misconception of the meaning of recapitulation? Cannot the activities of a given period of childhood be so formulated that they can all be described under one category?

The present attitude as regards recapitulation of race-characteristics is largely due to the form in which the facts themselves have been presented to us, that is, as evidence for the theory of evolution. As such their emphasis is necessarily on the past. The way in which such facts are supposed to support the doctrine of evolution is that they appear in intermediate stages in the individual's development, and seem to have no meaning unless we suppose that the higher organism of today has evolved from a lower form. This is especially true as regards the biological side, and the same attitude has been carried over into the psychic sphere. Every writer on evolution has laid special emphasis on the *meaningless* character of many of the stages in the development of the individual physical organism, and pointed out various vestigial or rudimentary organs, all of which, it is maintained, could not be accounted for except as remnants of lower stages of existence in ancestors. That the individual passes through certain biologic stages

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should be regarded, not as proof of an evolution from a lower form, but rather as evidence as to what the course of evolution has been, once granted that it is a fact. This statement may be a startling one. We maintain, however, that the true and primary significance of intermediate stages in the development of the individual must be sought first of all in the individual himself. Their backward reference is purely an inferential one, resting for its validity on a hypothesis that must first be proved in another way. The intermediate stages are not so much red tape that must be wound off before the adult form can be perfected, simply because the ancestors did so and so. The undeveloped organism is not weighted down with an incubus from the past that must be carried and religiously regarded, because, and only because, the past was such and such. Whatever the importance of the reference to the past—and it is important—this reference by no means exhausts the significance of the activity or stage of development. Those who maintain the popular view always insist, of course, that the intermediate stages are absolutely essential to well-rounded maturity, but they hold this view from the fact that the race has passed through similar stages, rather than from the fact that they have any functional significance in the

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developing organism itself. It is not assumed for an instant that a mammalian embryo could mature without at some time having gill slits, but it is forgotten that the gill slits may have a perfectly legitimate and necessary function to perform, entirely aside from the fact that certain remote ancestors of the mammal possibly had gill slits when mature.

As a case of useless recapitulation, Darwin mentions the embryonic stage of the land-newt, in which it is found as a tadpole in the intra-uterine fluid, pointing back to a time when the land-newt's ancestors lived in the water, and the period now passed within the uterus was then spent as by the progeny of the water-newt at present.[1] Even here it is questionable to just what extent we have a right to call this a *mere* reference to the past. It is by all means probable that this and most other seemingly useless stages of development are absolutely essential to the perfecting of the mature organism. The developing organism is not merely *sidetracked* into going through intermediate stages in order eventually to attain maturity, if by happy chance it lives long enough to get on the main line again; rather each and every intermediate step is a

[1] *Origin of Species* (Appleton edition, 1893), Vol. II, p. 256.

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definite and efficient cause in bringing to pass the mature organism with its own peculiar characteristics.

It is true there may be remnants of physical structure, activities, and attitudes in the undeveloped or even mature organism that have no present functional significance; but, if so, they must be comparatively trivial or transient. The inheritance of every ancestral attitude, activity, or structure would of course soon give the new organism so great a load to carry that it would never have an opportunity to face life for itself. Its whole life would be spent in recapitulating. Naturally, the most important thing that any organism has to do is to make the right reactions toward its environment. Hence those activities and forms of physical structure that are most essential to meeting the present problems of growth will be speedily selected out of the indefinitely larger mass to which the organism falls heir. The organisms able to select the essential elements and to slur over the nonessential will have the best showing, other things being equal, in the struggle for existence. Whatever nonessentials do survive must be such as in no wise seriously to interfere with the fulfilment of the vital functions. Thus may we account for the persistence of the vermiform appendix; the upper

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front teeth in the embryonic calf;[1] the fright of young children at fur, if such is really the case, or their fear of domestic pets, etc. In these and perhaps a considerable number of other cases, if the elements in question have no functional value, their persistence can be accounted for only on the ground that their presence is of little or no consequence in the life-processes of the organism. It may be assumed that the more complicated the processes are in which the organism is involved, the more the unnecessary elements will be crowded aside. These statements may be taken as applying in the psychical as well as in the biological sphere. We may consider it, therefore, safe to assume that by far the majority of the activities and attitudes of children are of definite functional value in their development.

The really illuminating category, then, under which to describe the child's activities, and one which includes them all on an equal basis, is that of present function. Their backward reference to the life of a remote ancestry is of far less moment to the educator than the fact that they are essentially the manifestation of a developing psycho-physical organism, and that in some way they make possible the activities of later stages and in the end condition the adequate perform-

[1] *Ibid.*, p. 255.

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ance of the functions of maturity. From this standpoint it becomes of even greater importance than before to know accurately from a study of children themselves just what we can call functions and activities of an immature mind. We do not mean to say that the study of the backward reference in the child's life is not necessary, but that the value of such a study for the teacher consists solely in applying it to the elucidation of its significance in the child's present experience. The question then is: What are the activities that characterize an undeveloped or immature mind and body, and in what way do they condition later and more adequate reactions?

The deeper question as to the nature of the unity underlying every process of development, the nature of the connection of the past with the future in any given stage, we shall not here attempt to consider. In a sense it is true that no activity can be stated entirely with reference to the present status of the organism; but this question belongs to philosophy, and we are here concerned only with stating, as carefully as possible, certain psychological and biological facts.

Two other factors in the determination of the child's activities require a brief consideration; those, namely, of environment and immediate heredity. As for environment, we may regard

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it as restrictive and modificatory rather than determinative of these organized dispositions to action that we find to be characteristic of childhood. The specific things done may be largely due to outer factors, but the *attitude* of the doer and the *meaning* of the act to him must be preeminently of inner rather than outer origin. In maturity it matters not for us which predominates, but the necessities of development make the inner unfolding of supreme importance in childhood.

As for *the part played by heredity in determining interests and activities,* the following considerations furnish at least a good working hypothesis: With heredity we approach what we may call an individualizing factor. Through the child's kinship to the race are first laid down the great fundamental lines of character from which the individual emerges. In the very immature organism the individual elements lie relatively in the background. But as maturity is approached, the lines of individuality begin to stand out and hereditary tendencies are most likely to assert themselves. By heredity in this narrow sense we have the carrying over into the descendant of the individuality of an ancestor, in some specific feature of body or trait of mind. The inherited element may have no functional

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significance. We have seen that it is otherwise in race-heredity. There it would simply be impossible for the irrelevant elements to survive, so great would be their number. But in family-heredity the time is too short for the weeding out of useless elements to have gone very far, and still less has the time sufficed for the extinction of any strongly marked but harmful characteristic. A certain boy, for example, was observed to use a peculiar motion in putting a hat on his head. No one about him put his hat on so. At length the mother recognized in the boy's movement the identical one of his grandfather under similar circumstances. The boy was too young when his grandfather died to have copied this curious characteristic. It was a direct carrying over of a trait from an immediate ancestor, and it came to the surface and persisted partly because it stood so completely outside the vital processes of growth and partly because there had not been time to crowd it out. It is thus with a multitude of other physical and psychic traits.

Fundamental lines emphasized at first.—These individualizing elements, then, are relatively crowded into the background, at first, by the more fundamental requirements of organic development. In the early years children approach more nearly to a common type. The embryonic child

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can hardly be said to have individuality. It is only after the more fundamental lines are laid that his individuality begins to appear. Only later does he begin to be affected in individual ways, instead of in general ones, by his environment, and to react as himself upon it, and later still to show forth his hereditary traits and taints.

We may with considerable certainty say that the environment determines the most fundamental traits of individuality in the immature form, while in the mature other factors enter—the individuality of immediate ancestors and the dispositions that have resulted from the processes of growth in the given environment; in other words, the race-dispositions as modified by education.

As there is less individuality in the first reactions, so there is less in the first interests, and we can, therefore, with some assurance draw conclusions as to the great lines of interest that run through the lives of most children, for as immature organisms they will have more in common than otherwise.

Interest and control.—We turn now to the more immediate problems of interests. If interests are indicative of the functions of the developing organism, we may conveniently find the process of growing control—a good one about which

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to centralize the material we collect. The process of development is pre-eminently one in broadening and deepening the control of elements internal and external. We can hardly, then, find any more illuminating point of view from which to regard interests. Many of their peculiarities in certain periods are due to the child's having suddenly advanced to the possibility or the necessity of a broader control and the difficulty of getting adjusted to its demands; or perhaps the impulse to realize the meaning of the new power more adequately comes as a vague stimulus to all sorts of seemingly erratic activities. The cruelty of many children, at certain periods, to the animals within their power may often find its explanation here.

We may note first in a general way the processes of unfolding activity, and hence of unfolding interests. The first efforts of the child undoubtedly center in gaining control of the sense-organs and various fundamental motor co-ordinations. Through the instrumentality of these an ever wider range of activities is rendered possible and an ever wider range of interests is organized for further activity. As the consciousness of self emerges from the early and chaotic experiences, so also does the social world differentiate. Along with increased power to control movement comes

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a co-ordinate increase in appreciation of social values. As the number of sensory and motor adjustments increase in complexity, there is of necessity an increase in mediating mental processes. These mediating processes furnish the basis for vastly more numerous lines of interest and vastly more complex ones. Instead of resting only on the immediate output of energy, as in the earliest interests, they now find their support in indirect activities and complex mental processes, involving more or less remote or ideal reference. The whole process is a passage from a relatively narrow environment with undefined social values to a broader one with more and more consciously evaluated social ideas. When we take into account in this widening process the influence of growth itself and its periods of acceleration and retardation; also such physiological processes as the shedding of the milk teeth, the beginnings of sexual maturity, we have a good general basis on which to interpret the interests of the child.

Classifications of interests.—The following are some of the classifications of interests: Dawson in an article on "Children's Interest in the Bible"[1] classifies them in the order of their development, as follows: instinctive, sensori-

[1]*Pedagogical Seminary*, Vol. VII, p. 151.

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motor and intellectual-emotional, or associational and rational. Another classification, covering the same ground, but throwing it in a little different light, might be made thus: regarding interest as the internal aspect of self-expressive activity, the first interests center around immediate activity, *i. e.,* biological functions as they come to consciousness. Interests follow that are only indirectly connected with any one activity, but accompany rather the complex functioning of the entire life-process. For example, the little child enjoys a game because it furnishes a direct outlet for his active impulses. A boy or girl a little older is interested in geography or arithmetic because these subjects afford opportunities for successful mental activity. The mere *successful* play of the physical or psychic organism is registered internally in terms of interest. If we now turn to children a little older, we find their center of interest in the game lies, not in the mere successful play of bodily muscles, but rather in the winning of the game. The interest is transferred from the actual putting forth of energy to the anticipated end. At the same time, they will begin to enjoy arithmetic, not because it affords opportunity for the successful putting forth of effort, but because of its evident connection with future livelihood and adult success.

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While the two sorts of classification given above may seem to differ but slightly, the latter is really more practically available than the former. No very definite description of interests can be made solely on the basis of mental or psychic content. A certain variety of psychic content may be more in evidence in some interests than in others, but, at most, such descriptions can be only rough-and-ready ones. If, instead of attempting a description on the side of content, we note the function fulfilled by the interest, or organized disposition to certain activity, we have an objective criterion that can be applied to even slight details with some degree of assurance. All interests, then, shall be considered as functional elements in the process by which the child's control broadens and deepens, and his personality is correspondingly enriched.

We are now ready to see what the literature of the subject can furnish us for working out the child's development from this standpoint. We shall try to find light on the definite periods of unfolding in certain directions, if such really occurs. We shall try to trace out in the apparently heterogeneous manifestations of child-energy an increasing efficiency in making adjustments to successively larger environments, and, on the other side, the increasing definition of his

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individuality through the increasing adequacy of the interaction of internal and external elements. Stated more briefly, we shall try, as far as the material afforded permits, to trace the development of more and more adequate control through the organization and mediation of the child's primitive impulse to action.

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CHAPTER XIII

DEVELOPMENT OF INTERESTS

Interests of the first period of childhood.—There is a general agreement of all investigators to make the first important period of childhood after early infancy include the years between two and a half and about six or seven.[1]

The characterizations of this period in the main agree. It is distinctly a play period. The child at the beginning emerges definitely into a world of things and activities as opposed to mere sensations. The wholes with which the child deals are at first emotional ones, that is, unities that are not connected with one another for further activity, but rather are complete in themselves. The child has not learned to see in the object any reference to more than the immediate activity, which when suggested by the object or the image is performed at once. In any given experience the child himself, the object, and the activity are more or less fused into a single emotional whole. The differentiated image has not yet had time to appear. The only

[1] *Cf.* A. F. Chamberlain, *The Child, etc.*, chap. iv, "The Periods of Childhood."

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images, as yet, are the summations of the value of all the activities that cluster about his contact with certain objects important in his environment. In time certain sensory elements stand out as the significant ones, as the signs by which the object comes to be known. With the growth of an image abstracted from the activity comes the possibility of play as distinct from mere impulsive expenditure of energy. Play is the interaction of the presented sense-content with the image-content of the mind. As at the very first, so now, mere activity is of the most absorbing interest. Objects, even yet, are less real to the child than are the activities that they suggest. In addition to their being the stimuli to direct activity, they tend more and more to excite chains of imagery which renders the activity itself richer.

This soon becomes *a questioning age,*[1] the beginning of an interest in the relations of images. The strongest interests are in the real experiences of the immediate world, but so anxious is the child to connect and relate his experiences that it is easy to turn him off into the fantastical and unreal by checking his expression of the real world. Much of the so-called interest in myth and fairy-tale can be explained

[1]SULLY, *Studies of Childhood,* p. 75, "The Questioning Age."

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in this fashion as induced phenomena, and not necessarily the normal expression of the growing child. We cannot believe in any innate delight in regarding things as other than they actually present themselves, except as it is an aspect of the attempt of an immature organism to gain more adequate control over the situations in which it is acting. The child is interested in the myth in so far as it helps him to get at the values within which he vaguely feels himself to be moving. He will construct his own myths for exactly the same purpose. To him they are not pretense, but better ways of getting at things. His myth-making instinct is not a result of his savage ancestry, but of the fact that he has an undeveloped mind, and undeveloped minds have pretty definite ways of reacting the world over, whether their possessors be children or savages.

Imitation plays an important part in the interests of this period. The more complete activities of older people help in defining the child's images, and the mere definition of the image means the attempt to carry it out overtly. This is above all the time for mimic plays or reproductions of all sorts of simple social activities.

Disparity of image and reality.—With the more definite working out of the images the consciousness of the disparity of image and activity

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grows. This is apt to arouse two very different sorts of interest in the objective world. In one case depression is caused by this disparity. The consciousness of his inability to realize his images inhibits all activity. Interest in everything is lost, and the child settles down to take the humdrum world as it is. Nothing can be more unfortunate for the future of the child than this early *ennui*. The opposite type of child realizes the disparity as keenly, but offsets it by an ideal world of his own construction, within which he realizes himself completely. Both attitudes are unfortunate, and yet few children escape one or the other in this transition period.

A fair degree of control in a narrow sphere is attained by the normal child in the first four or five years. That is, he is master of a good many motor reactions and sense-adjustments. He understands a good many simple duties in his home. If he has had wise training, he is well adjusted to the requirements of the social group within which he moves. But about the age of six or seven the consciousness of a broader field is thrust upon him, a field to which he is not yet adjusted. He may be said to have reached the first culmination in the development of his psychophysical co-ordinations. He is master only of the larger bodily movements. The finer adjustments

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that make possible a complete interaction with the minute details of the environment are not yet acquired. It appears that interest depends largely on the adequacy with which the child at different periods is able to co-ordinate himself with the elements appearing in his conscious environment. It is possible that the question may arise as to why there should be this outstripping of the world of possible reactions by the world of consciously felt possibilities, or why does the image run ahead of the motor adjustments. We can only leave the problem open. As for external factors, it is undoubtedly true that about this time the child does come into a broader and more bewildering environment. We stated above that the first interests centered about activities rather than the objects manipulated or the ends that might be attained through them. It is functionally necessary from the standpoint of the growing sense-organs and muscles that the strongest interests should rest at first in the mere play of these elements. Gradually, however, the interest shifts to objects and ends. The transition cannot be made without a certain feeling of helplessness in the presence of the new world.

Various characteristic activities of the period.—We find many statements, like this of Chamber-

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lain's, that the sixth year is a period of both intellectual and bodily regression; but it will not do to accept them too readily. The objective manifestations of growth may be checked, but the organism may be taking stock and perfecting delicate adjustments of even greater importance than mere increase in height and weight.

Kline[1] regards the years from four to seven as the second running-away period. Then likes and dislikes first begin to play an important rôle, and there is a certain unrest, a craving to rove, especially if home is unpleasant. This activity, if it is correctly reported, plays very readily in with the disparity of image with capacity for realization. The first running-away period was from two to four, when it was aimless, without consciousness of danger, an almost reflex activity.

Gulick[2] says of the games from three to six that they are rarely spontaneous; that they tend to be individual, but are not competitive. Crosswell[3] says amusements begin to center about objects at six, objects used symbolically, or as a means through which to exercise the impulse to

[1] "Truancy as Related to the Migrating Instinct," *Pedagogical Seminary*, Vol. V, p. 381.

[2] "Psychological, etc., Aspects of Group Games," *ibid.*, Vol. VI, p. 135.

[3] "Amusements of Worcester School Children," *ibid.*, p. 314.

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action. Imitative games are highest at six, and more so in girls than in boys.

The inability of the child, at this time, to grasp and be interested in any very large wholes is seen in the fact that children of six and seven, in telling what they wish to become when grown up,[1] always name some prominent detail in the adult activity of their immediate environment, never the occupation as such. For instance, a little girl who really wishes to become a housekeeper will say rather that she wishes to wash dishes or sweep. A boy, instead of saying he wishes to be a blacksmith, will say he wants to shoe horses. We may say, if we wish, that this is due to inability to make abstractions at this age. This is no doubt true, but the point is that it is the striking detail, and not its setting, that is of interest.

The collecting instinct[2] of these years is characteristic. From three or four to eight years of age, if the child collects, it is usually miscellaneous and trivial articles—spools, strings, broken dishes, etc. The mania is crude and groping; the things

[1] TAYLOR, "A Preliminary Study of Children's Hopes," *Report of State Superintendent of Public Instruction*, New York, 1896, Vol. II, p. 992.

[2] BURK, "The Collecting Instinct," *Pedagogical Seminary*, Vol. VII, p. 179; BARNES, "Children's Collections," *Studies in Education*, Vol. I, p. 144.

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collected are such as are easy to lay hands on. Hence the collections are scrappy and not purposeful in the adult sense. Lindley[1] finds that in this period is the culmination of the interest in guess games, original riddles, etc.

Summary of the first period.—The most satisfactory generalization of this period's interests is that they center about the direct activities suggested by the immediate objects of the environment. The emphasis is always on the activity, and seldom does the object as such intrude; hence the absolute freedom of symbolism and play; hence also the lack of regard for ends to be attained in play and the absorption of all energy in the *mere* response. The child of this period has definite general ideas, but they are very narrow ones, according exactly with the limits of his environment. If he attempts to transcend these limits, he is vague and unintelligible.

From the standpoint of control we note that every activity assists in the fixing of the free, large use of the body. Things are handled and looked at, and the activities of older people are imitated, not for their own value, but because they furnish simple stimuli. We may say, in fine, that activity of all simple kinds is a function

[1] "A Study of Puzzles," *American Journal of Psychology*, Vol. VIII, pp. 431-43.

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of all developing organisms, and that the objective world, in so far as it is an object of interest, is such from its value as immediate stimulus, and not for its intrinsic or remote qualities.

General characteristics of the second period.—The first part of the next period (seven to nine), especially, is one of slow physical development. As stated on a preceding page, energy is probably being consumed in effecting the finer motor adjustments that are eventually to be correlated with the rapidly elaborating ideational centers of the cortex. This is, then, the beginning of the interest in details. The element of skill is now for the first time important in the child-consciousness. His interest in the broader environment expands co-ordinately with increased complexity of the psycho-physical organism and consequent increased possibility of interaction of the various elements that make up himself internally and externally. At the beginning of the period the interest begins to shift from the act itself to the result it is to bring to pass. The element of success is a very prominent feature in determining interest. The child is now more than at any other period unwilling to do even simple things, unless he feels assured of a successful issue. The keynote of this period is that of control, transferred definitely from the organism

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itself to the environment, which is conceived of as containing a series of ends important to the child. His activities are now directed toward ends that are regarded for the first time as definitely his own.

Characteristic activities. — Games are exclusively individual, but competitive, during the first three or four years of the period.[1] They involve as their mainly significant features motor coordinations and exercise in sense-judgments. Activity is at first incoherent and lacking in nice adjustments; a weak period (Bryan).[2] There are some group games at eight and nine, but they are unstable ones. Imitative games continue prominent till ten years in boys, and in girls till eleven.[3] Such games are always much more common with girls than with boys. Boys' interest in running games is high from the very first, and continues so without much variation. Girls' interest in running games is always far below that of boys, and declines rapidly after the age of eight.

[1]GULICK, *op. cit.*

[2]"Nascent Stages, etc.," *Pedagogical Seminary*, Vol. VII, p. 357.

[3]"Amusements of Worcester School Children," *ibid.*, Vol. VI, p. 314; "The Play of Some S. C. Children," *ibid.*, Vol. VII, p. 459.

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Bryan[1] makes this time—from about eight to nine or ten—a transition period of equal, if not greater, importance than puberty. He speaks of it as a great fatigue period due to rapid physical growth. That this is a time of rapid physical growth is not supported by the anthropometric measurements reported by Burk.[2] Barnes finds the interest in striking biographies and stirring events is high here, and continues so until the age of eleven.

Siegert[3] also says this is a time (eight to nine) when children fatigue rapidly, giving as the reason that the body is too large for the circulatory organs. Chamberlain[4] calls it the second regressive period, but does not say why or in what respect. Kline[5] makes the third running-away period begin here and connects it with incapacity to exert persistent effort to overcome difficulties or dislikes. He calls it a survival of the migrating instinct, and holds that there is great carelessness of the person and property at this time.

It seems probable from the above statements

[1] *Loc. cit.*

[2] *American Journal of Psychology*, Vol. IX.

[3] *Die Periodicität in der Entwickelung der Kindernatur*, Leipzig, 1891.

[4] *The Child, etc.*, chap. iv. [5] *Op. cit.*

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that, from some cause or other, these years of eight and nine are characterized by a certain lack of adjustment in the child that makes him appear to disadvantage with both those younger and those older. We believe that the apparent regression is only a surface phenomenon, and that it may well be due to bewilderment, to a halting that occurs till the new adjustments are working more smoothly. As we saw above, there is good reason to believe that the emphasis about this time changes very markedly from interest in direct output of energy to interest in the objects with which activity deals and the ends to which it is directed. The child thus rapidly comes to consciousness of a new world requiring a radical change in his adjustments, physical and psychical. All the characteristics noted can easily be the result of such a condition. The lack of definitely worked out co-ordinations is shown in the unwillingness of the child to try to do what will not plainly be successful. Activity no longer flows immediately from the image, whatever it may be, regardless of whether it reaches its end or not. With the end definitely realized as a thing to be reached, the child soon acquires the attitude that activity as such is no longer in itself satisfactory. He soon learns from sad experience that his means for using these

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things and reaching these ends are very inadequate. He, who had once been merged in his activities, is thus gradually isolated and often thrown back on himself, thus increasing his sense of self, accentuating, as it were, his egoistic attitudes. Such an emergence of the self into a world of ends that cannot yet be realized in action, and that are perhaps not even realized in thought, but only felt as a series of vaguely understood demands—all this, we repeat, produces an attitude of distrust and diffidence that is only too easily fostered. Entirely aside, then, from any possibility of our having here a recapitulation of the migrating instinct, it is perfectly conceivable that the immature organism of the child should, in such a situation, internal and external, be especially restless and impatient of restraint, disinclined to overcome difficulties, etc. If this really is a distinct running-away period, it is easy to see that it should be, as Kline says, caused by the lack of ability boys have to stand the restraints of home life, especially if they are arbitrary and unresponsive to his peculiar emotional attitude. The same reaction against the environmental order comes out in a study of children's ideas about punishments.[1] Up to nine or ten they gen-

[1]FREAR, "Class Punishment," *Studies in Education*, Vol. I, p. 332.

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erally maintain that their punishments have been unjust because they were not guilty. In the studies of children's ambitions there is at eight and one-half a marked decrease in the number of boys selecting the father's occupation—another evidence of a feeling of uncertainty in the midst of new demands. At the same age nearly one-half give no reason for their choice of vocation—a greater percentage than among younger or older children. In some simple mental tests the age of eight was marked by a great increase in error. In the childish collections there is little effort before nine to classify even crudely the objects collected. That this is really a period of bewilderment and maladjustment comes out more strikingly if we contrast it with the years of ten and eleven, roughly speaking. These years are conspicuous for the seeming satisfaction and confidence with which the child goes into things, showing that he has taken an important step in the control that must accompany all real worth. We shall return to this in a few paragraphs.

As to other characteristics of these early years of the period, we note that the sense of the widening world is indicated by the various trades being now most popular with boys. With girls the influence of imitation is illustrated in the fact

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that nearly all girls at eight, nine, and ten wish to be teachers or dressmakers. The boy's desire to be soldier is highest here, and his reason for it has shifted from that at seven, when he was attracted by the drum and parade, to the desire now to fight for his country.[1]

Some investigators think, from a study in children's inferences and reasonings, that there is, at the end of the ninth year, a marked increase in the logical faculty.[2] At the age of nine and a half or ten the number of those giving reasons why they wish to follow such and such vocations also rapidly increases.

Play interests.—Naturally that portion of the period of which we are now speaking, during which the most rapid physical development occurs, will be a time of interest in vigorous physical exercise. Studies of the plays and games of children in various localities all unite in attributing to the period between ten and twelve years those games affording the most vigorous activity for the whole body. Interest in these active games almost exactly coincides with the period of greatest immunity to disease

[1] WILLARD, "Children's Ambitions," *Studies in Education*, Vol. I, p. 243; "A Preliminary Study of Children's Hopes," *New York Report*, 1896, Vol. II, p. 992.

[2] MARY S. BARNES, "The Development of the Historical Sense in Children," *Studies in Education*, Vol. I, pp. 43, 83.

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and most rapid increase in height and weight.[1] In one study 20 per cent. of the games were characterized by running; in another, 35 per cent. were of this character, the maximal point of the curve being at eleven years.[2] The games are all characterized by a restless activity. Some investigators think that children of this period (ten to twelve) respond readily to fatigue, but recover rapidly.[3]

In the games earlier than ten and eleven the chief elements seem to be those that facilitate the development of motor co-ordinations and sense-judgments. The later games are calculated to give scope and depth to the previously acquired co-ordinations. The years between ten and twelve or thirteen are regarded by many, and probably rightly so, as a time in which reserve power is being stored up for the rapid growth of the next few years. These interests in vigorous activity are both the means by which this energy is stored up and as well the proof of its presence. We have seen above that it is likely that just the

[1]See charts. The curves here reproduced are taken from BURK's monograph in *American Journal of Psychology*, Vol. IX.

[2]CROSSWELL and MCGHEE, *Pedagogical Seminary*, Vol. VI, p. 314, and Vol. VII, p. 459.

[3]BRYAN, "Nascent Stages, etc.," *Pedagogical Seminary*, Vol. VII, p. 357; HANCOCK, *N. E. A. Report*, 1897, p. 851.

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reverse of this occurs from eight till nine, when the curve of growth declines, and this was interpreted to mean that energy was being consumed in effecting and elaborating co-ordinations. We get further evidence for this from the studies in games. The motor discharges at first are relatively uncontrolled, but by the end of the period relatively well organized and regulated. One of the chief problems on the mental side, during all these years, is to find ideas or images adequate to furnish direction for the energy that rapidly becomes available. The prominent place that skill as such comes to have in the mind is evidence of the fact that increase in motor control is itself interesting. Interest in details of workmanship and the more intricate games arises coincidently with power to make finer muscular adjustments.

The studies (to which reference has been made) in what children want to become when they grow up throw further light on the point of view at ten or thereabout. It is then that a critical attitude is first noticed toward the problem of occupations. This is certainly a sign of growing independence in the midst of hitherto bewildering details. At this age also a greater number of occupations are mentioned by each child—an indication that by this time the activity to do many things has been acquired and the

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child yields to the new sense of power by aspiring to, and confidently expecting to engage in, many vocations. In other words, he is interested in his world still in the gross. He has learned to master a few details here and there, but does not yet realize how many more there are for him in a single pursuit. He thinks symbolically of each occupation by some one or two of the details of its work that he sees clearly, and from these he builds up his detailed world, adding them together as so many scattered elements. His interest in details is not, then, an organized and efficient one, but the beginning of the breaking up of his undifferentiated environment. This same attitude comes out in studies of children's drawings.[1] At six the child draws facts, not appearances. An apple with a pin stuck through is represented at this age in a drawing showing the whole pin. At eight to ten the correct appearance is drawn, but only schematically. The drawing might apply to any apple. In general the drawings of this latter period are said to be symbolic. Details come in, if many, in

[1]LUKENS, "A Study of Children's Drawings," *Pedagogical Seminary*, Vol. IV, p. 79; BARNES, "Art of Little Children," *ibid.*, Vol. III, p. 302. See also the series of articles on the same subject running through the two volumes of BARNES'S *Studies in Education;* CLARK, "The Child's Attitude toward Perspective Problems," *Studies in Education*, p. 283.

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a tangled mixture, but generally one is fixed upon to stand for the whole individuality of the object—just as we saw above in choice of occupations. Dr. Hall found this especially noticeable in the Sand-Pile Community that he describes so minutely.[1] In the construction of everything the boys selected some one element and emphasized it with all their skill. The barn gates were "admirably mortised and hung." In drawings the girl or boy is represented with buttons, hat, pipe, or spectacles, etc.; a house, with a keyhole; and so on. There is, says Dr. Hall, a great undefined whole, with some one or two features alone made real. We also remark at this time a noticeable increase in profile drawings of people, indicating a growing sense of things as they really appear.

In summary of the characteristics of these few years, we may say that they seem to be marked off from what comes before by the greater isolation of the image from the activity, and a certain bewilderment in the midst of many activities realized as possible, but for which the organism is not yet adjusted. This lack of adjustment is accompanied by certain marked emotional peculiarities, as mentioned above. On the other hand,

[1] G. S. Hall, "The Story of a Sand Pile," *Scribner's Magazine*, Vol. III (June, 1888), pp. 690-96.

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it is to be distinguished from the immediately succeeding years by its being a period of retarded growth and hesitant attitude of mind, as compared with the intense activities and well worked out adjustments of the next years.

Pre-adolescent interests. — Co-operative activity in sports of all kinds is a marked pre-adolescent phenomenon with boys.[1] The social feelings that later form so much of the content of life seem to be nascent in these early associations. Group and co-operative games are a matter of course in the adolescent period, but here they stand out as a marked characteristic because of their very contrast with the individualism in the sports of the earlier years. When co-operative games are played before eleven, there is little feeling of solidarity. The boy is generally willing to sacrifice the interest of the group to his personal glorification. The earlier interest in such games seems to be proportionate to the amount of opportunity they afford for the exhibition of personal prowess, but the pre-adolescent glories in the fact that it is his club or team that has won.

[1]See *Studies in Games* referred to above; SHELDON, "Institutional Activities of American Children," *American Journal of Psychology*, Vol. IX; *Rudimentary Societies among Boys*, "Johns Hopkins University Studies," No. XI, Second Series, 1884.

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This is a marked time of susceptibility to influence of others—another indication of the coming to consciousness of social relationships. The age of twelve has been found to be of greatest susceptibility to evil influence — an evidence of the beginning of the imperious attitude toward restraint that is so prominent in the next few years. There is some indication that there is here a beginning of definitely directed lines of interest. For instance, girls show fewer definite preferences for many different occupations at eleven than at nine. At thirteen, more girls wish to be dressmakers and milliners than ever before—45 per cent.; more even than wish to be teachers, which vocation has hitherto been most in favor.

At about twelve there is a period of uncertainty corresponding to the previous one about eight, but on an entirely different level. Then it was due to the disparity between image and motor adjustment. Now it is rather due to the felt disparity of the self with the complex social situation, or, to state it in terms parallel to those first used, the disparity between the images of social values and the mental adjustment necessary to their actual assimilation. This point is illustrated in the further studies in children's choice of vocations. Where several are men-

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tioned by one child at this age, it is nearly always disjunctively, as if for the first time the powers of the self were mistrusted and the uncertainties of the future keenly felt.

In the mental tests referred to above[1] there is a rapid decrease in error at twelve, indicating a marked virility of mind, that should be correlated with the rapid increase in height and weight and resistance to disease already beginning or soon to begin. The strengthening of social instincts is further indicated by the fact that the period of ten to thirteen is pre-eminently the one for the formation of secret societies and clubs.[2] Naturally enough the basis on which they are formed is very different from the associations of adult life. The child's dominant interests at the time furnish the ground from which he comes to consciousness of the need of co-operation with his fellows. These dominant interests are without doubt in the sphere of physical activity and eagerness for adventure. Hence of boys' clubs and societies by far the majority are athletic or predatory. Corresponding with this dominance of sensori-motor activity we find the interest in Old Testament stories stronger now than at any other

[1] HANCOCK, "Mental Differences of School Children," *N. E. A.*, 1897, pp. 851-57.

[2] SHELDON, *op. cit.*

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time.[1] Boys' interest in the Old Testament culminates at eleven, with 60 per cent. of them preferring this portion of the Bible. Of all the characters, David is the favorite at this period, and his life is surely typical of just the interests we have described as pre-adolescent.

Another interesting characteristic of this time is that of collections.[2] These are now at their height in number and genuineness. For the first time the boy does not depend almost exclusively on finding objects or having them given to him for his collections. Trading becomes now a well-recognized and important means of building up his collections—another evidence of the rise of the social consciousness. Trading continues high from eleven to fifteen. It is not until well into the adolescent period that collections become in any sense scientific; but even before, there are efforts to classify, mostly on the basis of color and size, however. This is an advance on the previous collections, for then even this was lacking.

On the more strictly intellectual side, it is noteworthy that the puzzle interest culminates at twelve.[3] Lindley regards this as distinctly

[1] DAWSON, "Children's Interest in the Bible," *Pedagogical Seminary*, Vol. VII, p. 157.

[2] BURK, "The Collecting Instinct," *ibid.*, p. 179.

[3] "A Study of Puzzles," *American Journal of Psychology*, Vol. VIII, pp. 431 ff.

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a pre-pubertal phenomenon. At this time there is a certain equilibrium that permits a surplus of energy to be expended in intellectual play before the more serious intellectual problems of adolescence. This puzzle interest is then an evidence of mental freedom, a breaking away from the narrowness of childhood. Thus the co-ordinations are worked out on the intellectual side at twelve and thirteen, much as they were on the physical side at or before ten, and in each case we have a characteristic play attitude. Of the kinds of puzzles, the mechanical seem to be the favorites at eleven, the geometrical at twelve and thirteen, and the arithmetical and language varieties in the years following.

Development of interests corresponds to development of the personality. — Thus far, in the discussion of this period of childhood (seven to twelve) we have dealt chiefly with the characteristic interests and dispositions of the beginning and close of the period, as each is a transition time and the child's attitude of mind is, in a sense, the same in each. We selected facts that would bring out the analogous character of these two periods and, as well, accentuate their differences. We turn now to data scattered indifferently through the period, and will note, if possible, if they can be correlated as the expression of a

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developing personality. We shall try to find evidence of unfolding mental and emotional characteristics, and will expect to find coincident with this unfolding a gradual breaking away from immediate surroundings and an assertion of increasing independence in all lines of activity.

We note, in the first place, that a large amount of the material relating to these years can be centralized, either positively or negatively, about susceptibility to, or imitation of, things in the immediate environment.

Eight to ten is generally recognized as a period of great susceptibility to suggestion and imitation.[1] The child of eight tends to imitate specific acts. He does not generalize in his imitation, and thus get back of the act to the attitude prompting it; nor does he seek to imitate the larger whole of which the act is a part. The same susceptibility, but on a higher plane, appears from eleven to seventeen in girls and twelve to nineteen in boys—the period of greatest openness to good influence by teacher or friend, culminating in boys at sixteen and in girls at fourteen.

The disposition to imitate is largely determinative of the direction of ambition. Thus at nine, 68 per cent. of girls wish to be teachers, while only 30 per cent. aim to be dressmakers and 10

[1] FREAR, "Imitation," *Pedagogical Seminary*, Vol. IV, p. 382.

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per cent. stenographers. This is clearly due to the teacher being the most prominent factor at that time in so many girls' environments. Boys likewise, up to age of ten, reacting to the element that impresses them most of all, aspire to become firemen, policemen, and engineers. At nine, 35 per cent. choose the father's occupation, but this decreases rapidly in popularity till eleven. The fact that eight and nine is a transition period, a time when adjustments are being worked out, makes it all the more likely to be markedly imitative. It is then that the child turns to his surroundings to find what he feels is most deficient in himself. Consciousness of his own insufficiency brings him to consciousness of the objective values in his environment. The immediate environment furnishes most of the objects of most early collections, and between eight and eleven girls especially depend on having things given to them rather than on finding them or trading for them. There can be no doubt but that the chief stimulus to the forming of collections is the example of associates. The next most important cause is desire for quantity, which depends for its significance on the presence of other collections and the necessity of surpassing them, so that here again is marked susceptibility to what others are doing.

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Boys at thirteen have a second period in which a tendency to choose the father's occupation appears. As was seen above, the mental attitude that is at the bottom of this second tendency is exactly analogous to that of the earlier period, when the same thing occurs. At first it was due to the uncertainty and bewilderment felt on coming into touch with the broader world of things and ends to be worked toward. In the latter case, the same uncertainty arises as the boy comes to a consciousness of the complexity of the duties involved in any one vocation and his own inadequacy in the midst of them. He was at first confused by the breaking up of the entire environment; now it is by the breaking up of the particular unities in the environment.

Earl Barnes's studies in the ideals of English children[1] furnish abundant evidence of the rapid transference of the center of interest from the immediate to the more remote, and at the same time confirm what has come out in several studies referred to, namely, that girls tend to be more imitative and less general in their interests than boys. We give below a brief summary of his study, but as it is made only among a certain class of children, no conclusions other than the general

[1] "Children's Ideals," *Pedagogical Seminary*, Vol. VII, pp. 3-12; DARRAH-DYKE, "Children's Ideals," *Popular Science Monthly*, May, 1898.

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ones given here should be drawn from it without first consulting the article itself.

At eight years of age 42 per cent. of the boys who were studied in the London board schools chose a character in the immediate environment as their ideal. With the girls it was 49 per cent. The percentage of children making such a choice decreased as follows from eight to thirteen: boys, 42, 40, 26, 11, 16, 15. At twelve and thirteen there is thus a significant increase in susceptibility to environment—a fact mentioned above and for which an explanation was then offered. Girls' choice of an acquaintance for an ideal, beginning at 49 per cent. at eight years, runs as follows for the years till thirteen: nine, 51; ten, 37; eleven, 27; twelve, 18; thirteen, 14 per cent. In every case the percentage is higher with the girls except at thirteen.

The opposite interest, that in historical and public characters, showed in general an increase with years. Thus the boys' percentages run from eight years thus: 17, 17, 34, 50, 60, 69. With the girls we have: 27, 14, 21, 40, 46, 44. The public characters were mostly remote ones, and included few celebrities of the day except Queen Victoria and Gladstone. Few literary characters were mentioned. Studies among children from the schools of the better classes showed correspond-

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ingly broader spheres of interest. The percentages from the London board schools may be taken as representative of the attitudes of the children of comparatively restricted opportunities. For further details the reader is referred to the article itself and to further reports on the same line of study given in *Studies in Education,* Vol. II.

Before leaving this subject, we may note that a comparison of the English study with an American one brings out the significant fact that for every age the sphere of interest is larger with the average American child than with the English board-school child. The interest of American girls in the life and work of men is always far above that of the English girls. Mr. Barnes accounts for this from the fact that the American girl has no great feminine character in public life to aspire to be like, as does the English girl in Queen Victoria.

Closely connected with this transfer of interest from the immediate to the remote is of course the development of the social interests and activities. This has already been partly discussed. We have seen that true co-operative games do not begin till ten or eleven, and that if such games are played before that time there is little combined action, the games being more important for showing individual feats than for gaining a

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common victory. The marked quarrelsomeness of the earlier period is evidence of the lack of a definite co-operative impulse. Interest in hide-and-seek, a relatively individual game, culminates at ten and then suddenly drops. After the twelfth year interest in ball games rises from 15 per cent. to 26 per cent. in four years. Interest in relievo, a co-operative running game, culminates at ten with hide-and-seek, but unlike the latter it continues high till fourteen. Girls' interest in co-operative games is less than boys'. The age at which such interest culminates is about twelve. Their favorite amusements are with dolls and jumping the rope, both of which are individualistic, at least not co-operative with reference to a common end as with so many boys' sports. Dolls, it is true, furnish satisfaction to social feelings, but these are of the narrower sort. The only real co-operative game with girls, as indicated in this study, is croquet, which does not become prominent till twelve, and even this is an only imperfectly co-operative sport.

In studies in children's aspirations, altruistic feelings definitely appear at twelve and naturally first with reference to parents. At fourteen the various social virtues are recognized as necessary for success in business.

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We have already noted the large number of secret societies formed by boys at the period between ten and fifteen. Eighty-seven per cent. are formed in these years. Seven per cent. are formed before ten and 1 per cent. at seventeen or later. Physical activity is the keynote of these societies, 77 per cent. being predatory and athletic. The number of voluntary organizations at this period for literature, art, or music is very small; the number for religious purposes is infinitesimal. Boys in these years are much less likely to patronize societies organized for them by adults than are girls.

Sex differences of interests.—We may next note specifically some marked sex-differences not already alluded to. Boys have a few intensely popular games that surpass all others by many hundred per cent., while with girls there are a large number of games of medium popularity, but almost none pre-eminently above the rest. The girls have no games that can compare in popularity with baseball and football.[1] This is perhaps not really a sex-difference, but a phenomenon due rather to girls' restricted opportunities and the lack of suitable games for them to enter into heartily in large numbers. We must remember, however, that this very lack is significant, to

[1]McGhee, *op. cit.*

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a certain extent, of different impulses to engage in such games. Boys' sports and opportunities are largely the expression of certain definite and intense impulses for certain sorts of activity.

We referred above to the difference in the ideals of London boys and girls. We note also in this and other studies of Mr. Barnes's that the girls are much more ready and willing to answer the questions and give reasons for preferences than are boys. This may mean that girls are more suggestible than boys, or that they have greater ability to express themselves. We have also seen that girls rarely find or trade articles in making collections, as do boys.

In the mental tests there is less irregularity in girls' curves of success and error than in boys';[1] this confirms much evidence from other sources that the interests of girls unfold more regularly than do boys', but do not extend so far. The athletic clubs of boys are replaced by musical, social, and literary organizations with girls, but usually at a much later age. At the period when boys are most active in these institutional activities girls are doing almost nothing of the kind. An interesting instance of this may be found in Hall's "Story of a Sand Pile."

[1]HANCOCK, *op. cit.*

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In studies in superstitions of childhood[1] marked sex-differences come out. Girls are found to have more superstitious beliefs than boys. A marked peculiarity of all such beliefs is their personal character, that is, the tendency for each individual to have his own peculiar belief. By far the largest number of superstitions are mentioned by only one child. This seems to be especially so with boys, and the investigator suggests that this is because boys are less social than girls. Our study, thus far, has not confirmed this view, and we suggest that it may be due to the fact that boys display more initiative and individuality than girls, and hence are less under the influence of social suggestion, while being still keenly social in their activities. Girls have many superstitions in love-lore, while boys do not. This points to a fundamental emotional difference in the sexes. Boys, having the more active part to play, take things into their own hands, while girls, for much the same reasons as primitive man, resort to magic.

In tests as to children's sense of the practical, boys seem to be ahead of girls.[2] Girls below the age of twelve were weak in the sense of the

[1] VOSTROVSKY, "A Study of Children's Superstitions," BARNES'S *Studies in Education*, Vol. I, p. 123.

[2] KÖHLER, "Children's Sense of Money," *ibid.*, Vol. I, p. 323.

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practical. The girl's pleasures after twelve seem to be more subjective and less common than is the case with the boy's. He lives in a wider world; his pleasures are those of other boys.

With boys the desire to be well dressed appears markedly for the first time from twelve to sixteen, but it seems to be merely an element of the broader sex-consciousness. With girls the matter is much more definitely conscious and is rather an expression of individuality and taste.

The emotional accompaniments of the various periods of childhood, of course, vary widely. The transition periods of eight and nine, and twelve and thirteen, seem to be times of some emotional instability. Boys, in general, seem more overt, active, intense; girls more subjective, diffuse, and medium in likes and dislikes. In one study of the play-interest[1] it was found that after nine years there was a marked increase in girls' preference for games of chance (those, of course, of a harmless juvenile character). From nine to eighteen the interest increased from 7 to 45 per cent. of all games chosen by girls; while games having this element most prominent were never chosen by boys above 9 per cent. Marbles are, of course, often played so as to be a game of chance, but the element of skill and overt activity

[1]McGhee, *op. cit.*

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is also so prominent as to render its appeal to boys a many-sided one. The games of this character usually chosen by the girls were comparatively quiet ones in which the element of chance was the dominant feature. Such games are enjoyed, if at all, for the emotional response which they excite without involving any violent overt exertion. It is not likely that we have here any fundamental sex-difference, but rather a phenomenon forced by the girl's exclusion from the active sports open to the boy.

In this same study it was found that boys' choices of games involving running, rivalry, and co-operation were always high, while the only class in which the girls equaled the boys was in that in which rivalry was predominant. The two classes in which the girls surpassed the boys were those involving imitation and chance.

Boys' moral ideals at ten are negative rather than positive; that is, the fragments of adult morality that they have imbibed are of this sort. For instance, they wish to avoid bad habits—a probable reflection of much of their moral teaching. Girls, on the other hand, express as their highest desire the being good to others.

Practical interests appear clearly at ten or eleven. At ten, boys mention for the first time concrete occupations as the content of their

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aspirations. At twelve and after the desire to make useful things is prominent. It is not till then that purposeful activities covering any considerable length of time begin. Girls' interest in dressmaking, clerking, stenography is very prominent at the beginning of adolescence. The interest of boys from ten to thirteen is most of all in trades of various kinds; afterward business and professional life. At fourteen they are apt to introduce various practical considerations in their choice of occupations. They seem to be coming to consciousness of the real problems involved in work which before the age of twelve they had realized only vaguely.

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CHAPTER XIV

CONCLUDING REMARKS ON INTERESTS. METHODOLOGY AND BIBLIOGRAPHY

Character of the literature on interests.—This sketch of the development of interests has been fragmentary and in many respects unsatisfactory, but it fairly presents most of the material that has been gathered together thus far by those who have made empirical studies in child-life. Three or four important studies have been omitted: In the first place, one by O'Shea, "Interests in Childhood."[1] This contains the results of a valuable series of studies, but they are not classified definitely enough as to age to be available for such a study as this. There are also three lines of investigation having much in common, carried out by Binet, Barnes, and Shaw, that are widely known, but the results of which are so abstract as to render them of doubtful value except in a general way. Their general scheme is to get the child's response to selected spoken or written words. For details of method those interested are referred to the articles themselves.

The method undoubtedly yields good results

[1] *Child Study Monthly*, Vol. II, p. 266.

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in a general way, but the answers given by the children seem too much the result of mere word-association to be of great value for detailed conclusions. Barnes, for instance, finds interest in the uses of things the predominant one, and Shaw, from a slightly different standpoint of interpretation, shows that from his results interest in activity is by all means predominant. All the rubrics used in these studies are more or less abstract, leaving a wide margin within which the interpreter could shift his data. It is also questionable how far the child's definition of a single word, or his first response on seeing or hearing it, can be taken as a reliable index of his mental attitude toward that particular aspect of the world in general.

It will be noted that we have not attempted, except incidentally, to touch upon the interests of adolescence. This period is already so thoroughly worked out and the results so well collected that it is superfluous to go into the subject again. It is the first twelve or thirteen years that have as yet lacked an organized and complete statement. Regarding these first years, also, it has been the most difficult to gain accurate information, because we must rely largely on the objective manifestations either in various forms of bodily activity or in the expressions of mental

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content in drawings, written work of various kinds, etc. It is clear that all our positive knowledge of the actual attitudes lying back of these overt expressions must be only very indirectly established. Some psychologists have attempted to get at the problem by having the child report his own introspections. But, however desirable it may be to get direct accounts, we must regard all attempts to build up our knowledge in this way as utterly fallacious.

Generalizations unsafe.—Hitherto we have not raised the question as to how far it is safe for us to generalize the conclusions of individual studies. Granting that they have all, as far as they go, been carefully made, we nevertheless see at once that a slight change in locality, or more especially in social status of the subjects, might modify very materially many of the details. This is illustrated most markedly in the difference in the ideals of the London board-school children and those of the children attending the better schools of the middle and upper classes. Still, even here the difference is rather in degree than in kind. It is safe to assume that every normal child has certain characteristic reactions in virtue of his being a developing organism. We have endeavored in selecting the material for this study to take that which emphasized the broad general

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tendencies rather than what on its face is merely particular or at least more contingent.

The further question as to how far the individual child may be expected to vary from the norms, if these could only be established, is also an interesting one. It was pointed out on an earlier page that the younger the child, the more nearly does it approach a common type. It is by all means likely that the nearer maturity the child approaches, the more we may find him varying from the supposedly common type. In fact, it becomes less and less correct to speak of types as we advance to the more mature forms. The type back of the adult can be only the vaguest and most unilluminating affair. With the child it represents a definite body of tendencies to act in certain ways that practically all children will possess. It would be difficult to chart variations from psychic norms, but curves made out for the physical side are interesting and are probably a fair index to variation in general. We adopt from Burk[1] a curve covering 45,000 boys and 43,000 girls. From it we see that the average variation from mean height increases slowly from 5 cm. at five and one-half years to 9 cm. at fifteen and one-half years for boys. For girls the variation is from 5 cm. at five and one-half to 8½ cm.

[1]*Vide* charts at close of volume.

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at twelve and one-half. After these ages variations in height rapidly fall off, but on the psychic side it would now be only well begun.

Forward reference of interests.—Before closing the discussion, a word should be said in explanation of what is meant when we speak of the interests of one period preparing the way for those of the next. It is possible to err as seriously in regard to the forward reference of interests, their value in preparing for adult activities, as it is regarding their backward reference.

From one point of view, every spontaneous expression of the growing child has a teleological significance; that is, its full meaning comes out only in connection with the completer development of succeeding years. For such to be the case does not, however, render less valid the activities of the child for himself. The criterion of value for the future is necessarily one for the observer, one to be applied only after the evolution has been completed, and when we can look back and interpret the incomplete in terms of the complete. It may be perfectly legitimate in philosophy to use such a standpoint, but for psychology the criterion must be in terms of present function. From this point of view we have outlined the unfolding of the child's interests and dispositions to certain sorts of action. Each

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period of development has its own justification, no matter what comes before or after. If a period of well co-ordinated and definitely directed modes of expression is made possible by the half instinctive and impulsive activities of earlier years, these earlier years were not *mere* terms of preparation. Their activities are as truly expressions of the meaning of life to the child as are the so-called fuller activities of later life to the mature individual. In the eyes of the adult the child's responses are very inadequate, but in the child's situation, with his undeveloped organism, they may be, and undoubtedly are, as complete and adequate as are the adult's. A child is not an imperfect embodiment of the powers of the adult; neither is the child's environment the differentiated one of maturity. It is because the child and his environment are separated, and because into each, in its isolation, are read the meaning that attaches to them for maturity, that the childish activities and interests come to be regarded as merely preparations or promises of future efficiency.

And yet how shall we know, in studying any given point in mental development, whether the interaction of the various elements is really what it ought to be? Does this demand the bringing in of a criterion from a later period? If it does,

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it in no sense lowers the validity of the period in question. Each stage of development is valid in itself, because it represents an interaction of an organism of a certain degree of specialization, with an exactly correlatively differentiated environment. No more than this can be said of even an adult period. If there were not this correlativity in the unfolding of organism and environment, then the so-called immature periods could be judged by external criteria and in the light of adult life be regarded as *mere promises* of better things. That is, if the organism were undeveloped, but were living in the midst of the same developed environment as the adult, the goal would be to adjust the imperfect activities to the given perfect environment. Thus the child-side of the equation would be continually a deficient one. Or, if both child and environment were regarded as given in specialized and fully developed form, the child would still be at a disadvantage, for he manifestly does not under present conditions really get the worth of an adult environment. The true view is that *the child as he is gets the worth of all the world that he really has.*

The activity of the future is, of course, conditioned by the child's present activities. It would thus be more correct to say that the co-ordinated

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activities of later life hark back to those of the immature forms, than that these point forward to the former. The only meaning that we can attach to "teleological" in referring to interests is that which belongs to the term in the general evolutionary process. The less specialized points to the more specialized simply because the latter is a development from the former. The earlier interests of man are not the mystic foreshadowings of what is to come, but the stuff that goes on differentiating until it reaches a degree of coordination and specialization that by common consent we call mature. There is no reason intrinsic in any activity at any time that labels it as more or less perfect, or as higher or lower in the scale of development. The boy does not form various clubs and societies with his playmates so that he may be a better member of society, but he does become an efficient and useful member of society because of these youthful cooperations. This is in substance all we can mean by the "development of interests."

Criticism of methods of studying interests.—No elaborate discussion or criticism of the methods by which the preceding material has been gathered can be attempted. We have gone on the assumption that the various studies have been, at least in general, reliable. The interests that

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have been mentioned are, most of them, well recognized by all observers of children, and, while there may be errors in observing and interpreting the facts here set forth, the general scheme as a whole seems fairly consistent when we reflect upon the great variety of sources from which the material has come.

The whole subject of methodology does, however, need a thorough investigation. The object of all this class of studies should be to get accurate data as to the child's spontaneous expressions and activities, with definite record as to age, sex, and previous life-history. Every study must be accompanied by a careful statement of the conditions under which the material is secured. The real child-psychologists are endeavoring more than ever before to devise tests that will eliminate as nearly as possible disturbing conditions; in other words, to gather material by laboratory experiments. The child cannot, of course, be isolated completely; the conditions cannot be absolutely controlled. It is questionable whether we should really get what we want any better if a test could be applied in which the conditions were theoretically ideal. With such comparatively simple things as molecules and rays of light we can tell pretty accurately what to eliminate and what to preserve. But when it comes to

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experimenting with children, how can we know that what we have attempted to eliminate as disturbing conditions are not really vital to truthful results? The child must largely be taken as he is. It is clear that two very different forms of tests may be used for the same end, one of which is so arranged as to bring out the precise point aimed at, while the other, applied under exactly the same circumstances, will arouse all sorts of disturbing elements. We recommend for careful study the various forms of inquiry used by Earl Barnes and his fellow-workers, and reported in the two sets of *Studies in Education.* They are interesting examples of attempts so to shape the tests as to give exactly the result aimed at and nothing more.

Defects in studies.—As to the studies from which we have quoted, there is much variability in the degree in which they embody all necessary and desirable elements. One of the most serious defects with a large number is their failure to give information as to the subjects and the conditions of examining them. They present simply a mass of data that may be entirely trustworthy, but which is of extremely limited value for such a study as we have attempted. Summarizing the essentials of a good experiment, we should say, first of all, let the kind of activity to be

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studied be definitely marked out. It must then be noted to what extent, without creating any artificial conditions, it can be studied in comparative isolation. Next, the test itself must be arranged so as to give exactly the results aimed at with a minimum of extraneous elements. In the interpretation of results it is of the utmost importance so to frame the rubrics under which the data are to be classified that the personal equation of the investigator shall be reduced to a minimum.

Relative value of methods.—Of the methods actually used a few words may be said. Some studies can be made entirely by observation of children, as, for example, in their games, clubs, etc., and a great many lines of interest can be assumed by this method. Most investigators have, however, placed great dependence on some sort of vocal or written expression from the child. Of such expressions, two general sorts have usually been sought: *first,* those involving a certain amount of introspection on the part of the child, including his direct statements as to his desires, likes and dislikes, or even more subjective information about present mental states, motives, etc. Answers are also sought to questions that do not exactly require introspection, and yet are aimed to throw direct light on internal attitudes.

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Secondly, such expressions of the child as drawings, compositions, and the like, arranged to throw indirect light on the child's subjective attitudes and character. Manifestly the latter class of material is much more reliable if the investigator is only skilful enough to read it aright. There is, of course, always the danger of finding in such things what is really not there, or at most only slightly.

The methods that rely on the direct statements of children regarding themselves are, it seems to us, of questionable value, especially if used on children before the adolescent years. It would be worth while even to test carefully their reliability for adolescents and adults. Reminiscences of interests of earlier periods, whether written by children or adults, are still more questionable for anything like accurate conclusions. With children, for example, the tendency is always in recording some childish interest, such as playing with dolls, to locate it far back in infancy, even when it has been of vital concern to them until very lately. So with adults, it is certainly unsafe to rely, except in a general way, on the accounts they give of their childish interests. Not only does the average person read much into his early life that he has really come to the realization of only in later years, but he also

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cannot be expected to tell with any accuracy when he had certain interests, and when and how they culminated. Except to the trained observer, all the early life is apt to be read in terms of mature interests and attitudes. This is illustrated by the rarity of those people who can put themselves in any true sense in a child's place and appreciate his point of view.

Judged by the criteria of good experiments, offered above, many of the articles quoted fall short, and yet it is worth while to bring together what they offer—to take account of stock, as it is. If it is unsatisfactory, we at least have the ground cleared for a new series of endeavors.[1]

[1]Bibliography at end of volume.

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CHAPTER XV

ADOLESCENCE: AN INTERPRETATION

We shall not attempt in this chapter to add anything to the already voluminous investigations of this period, but rather to get at a point of view from which the material already collected can be interpreted. This is the greatest need at present. There are many problems of adolescence, it is true, in which there should be much more research, but it seems hardly wise to heap up more material until we have taken our bearings in what we already have. It is inevitable that the hypotheses of the pioneer students of this period of development should have been somewhat superficial. In collecting a new set of facts, it is impossible to know which to select as the truly characteristic ones, and which to regard as the more superficial or as due to artificial conditions. But we have on hand now material enough regarding adolescent attitudes to look with assurance for some principles of interpretation.

The period comprises the five to ten years immediately succeeding puberty. It may be characterized as primarily the time when the

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youth comes to consciousness of the sexual functions and when the chief problem of co-ordination is that of adjustment to the values of the social organism in which he lives. It is in its first years a period of greatly accelerated growth in height and weight, and this, together with the maturing of the sexual functions, seems to render it a time of great emotional instability. These may be taken as the fundamental facts. The problem is to interpret the varied phenomena of the period in terms of these facts. What we greatly stand in need of at present is a reliable description of what may be safely regarded as normal characteristics of the average adolescent. Too often studies in this period have been confined to particular classes—those, for example, living in a certain special environment. It is clearly improper to generalize the characteristics of such types before we have studied with equal care the adolescents who come from different surroundings. Another fault of previous studies is that they have tended to select striking cases and to ignore the average. The error here has been largely one unavoidably connected with the method of investigation most in favor. The special classes studied have usually been those from a more or less religious environment, and the method has largely been that of the question-

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ary. Aside from the obvious limitations that attach to reminiscences and to the attempts of a youth to answer formal questions regarding his present subjective attitudes, this method has other and even more serious objections, if it is to be used in establishing any adolescent norms. By the questionary we get returns from the more subjective natures, but from the objective types we get at the same time absolutely no information. Those who have striking inner experiences, especially in the religious line, are naturally intensely interested in them and are ready to describe them. Even after multitudes of such experiences have been collected, it must be admitted that there may have been as great a number under different environmental conditions who have had no subjective experiences at all comparable with the religious types and who, having nothing to report, simply said nothing to the questions that in others awakened a ready response. We must be careful, then, about all generalizations as to the introspectiveness of adolescence, its times of storm and stress, its periods of revolt against all authority, its crises and sudden conversions, its exaltations and depressions. These states are no doubt characteristic of many adolescents, but the problem is to find how far they may be regarded as the normal expressions of an unfold-

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ing consciousness, and how far they may be properly classed as induced phenomena, that is, as arising under special conditions.

We can probably say with some assurance that adolescence tends to be a time of emotional instability. To those who accept the James theory of emotion it is quite conceivable that the rapid bodily changes in height and weight, and the maturing of the most fundamental instinct of the race, would be accompanied by a certain lack of equilibrium in emotional attitudes. Whether this instability results in the actual emotionalism of the various types usually cited depends entirely on the temperament of the youth and the influence of surroundings, particularly the latter. There are some situations peculiarly suited to arouse and sustain violent emotional excesses, and others in which every force to which the youth is subjected tends to turn his mind from himself and afford him abundant opportunity for expending his surplus energy in overt channels instead of turning it in upon himself.

There is no doubt that this is a time in which the relationship of the youth to others rapidly acquires new meaning, a time for the rapid realization of social and self-values. It is likely that the values and the proper adjustments toward them are felt before there is proportionate

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development of ability to make the adjustments. It is not strange, then, in proportion as the disparity between the self and its realized duties is felt, that feelings of maladjustment should arise and that they should easily be exaggerated by an unsympathetic environment.

It is also likely that, with the exuberance of growth, the rapid unfolding of a consciousness of social ends, and the first realization of the possibilities in life that lie before one who is full of zeal and energy, erratic tendencies of various kinds would easily arise, and that these, if too sternly checked, would often break out into the "storm and stress" about which we hear so much. This is by no means as common a characteristic of adolescence as has been thought. It appears usually among those who have been raised in a narrow dogmatism, against which, in the presence of the newly realized freer life, if the youth possesses any energy and native force of character whatever, there must inevitably be a reaction.

The religious feelings at this period are apt to assume in some a striking prominence. It is not strange that the vague feeling of many great possibilities lying before and the sense of maladjustment to the conditions of the present should play directly into the hands of religion, especially if there are elements in the environment that

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tend to suggest such interpretations to the youth. If social pressure happens to crystallize in this particular direction, almost every vague feeling or attitude of mind that is not easily interpreted, or is not organized with the rest of the experience, will be interpreted on the religious side. Religion, so to speak, picks up the unorganized tendencies and feelings, and gives them whatever meaning and organization it may choose. From the standpoint of its organizing influence, it is to a certain extent beneficial in its effects. As much, however, cannot be said of it in so far as it promotes introspection and self-analysis, or tends to bring prematurely to consciousness tendencies that would normally ripen later.

It seems to be true that all relatively unorganized forms of experience are peculiarly open to suggestion. The lack of coherency among the ideas and systems of ideas in such a mind renders them easy prey to influences of all kinds coming from without. The chaotic character of the adolescent's mental systems with reference to the broader social relationships makes him particularly suggestible in every question of social conduct and the organization of his action with reference to the broader problems of life. This condition of suggestibility is entirely analogous to that of the child, especially under the age of

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six or seven. Here also we have an experience without definite organization, bewildered by its sudden emergence from a world of activities into one of things and ends, offering almost indefinite possibilities of manipulation. This period in the child is marked by extreme readiness to be influenced, in the simplest opinions and acts, by the mood and conduct of others. He may be said to be hypersensitive to all means offered by his environment for the defining and emphasizing of his experience. The adolescent has the same need for definition, but upon a higher plane, and *he may be said to be hypersensitive to all forms of social suggestion.* If this is true, there is indefinite possibility for variations in adolescent characteristics. Whether there are experiences of storm and stress, times of sudden awakening to hitherto unrealized values, or merely a gradual and harmonious unfolding of the new mental attitudes, depends as much on the character of the environment in which the youth lives as upon himself.

The frequency of conversions at this time in the evangelical churches has led many to regard it as a normal adolescent phenomenon. Both Starbuck[1] and Coe,[2] however, find that there are

[1] *Psychology of Religion.* Scribner.

[2] *The Spiritual Life.* Methodist Book Concern.

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many individuals in the churches who have never had these "sudden awakenings." Their religious life has unfolded gradually. Dr. Coe finds that such tend to be less suggestible than those having the striking "experiences." All this points strongly to the view that development during the adolescent period should be a gradual unfolding, and that where breaks occur they have been forced by social pressure in some form; that is, certain vague impulses are forcibly given some special direction by social suggestion. Such a forced crystallization of impulse is apt to be accompanied by a somewhat severe emotional upheaval and a consequent increase in introspective tendencies. While it is by all means desirable that social influences should give direction and meaning to the impulses of this period, it is not desirable that they should be premature in their operation. There is great danger in a too early centering of the deeper impulses in certain channels. A prolonged adolescence is as desirable as a prolonged infancy, that there be an adequate growth in every line before the specializations of later life.

It is questionable, therefore, whether in early adolescence strong social pressure should ever be brought to bear upon the youth in any one direction. The most normal development will be

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attained by letting him live in the midst of a society occupied with its customary functions. Such a situation will furnish ample suggestion for the defining of experience when the proper moments come for its definition, and it will be more likely to take a natural and healthful direction than if an attempt is made earlier to center its elements in some exclusive channel, such as the religious. Wherever suggestion is strong enough, we find many instances of sudden awakenings in other spheres than the religious. The reason for their being relatively so abundant in the religious sphere is because there a tremendous pressure is usually brought upon all within reach of such influences. All sorts of vague and undefined impulses are seized upon by the church and interpreted from a religious standpoint. How artificial a religion so produced is apt to be is proved by the fact that with a few more years of growth the youth often becomes conscious of the real significance of what he had before interpreted from a religious point of view. Thus too often in later life religion itself is rejected as a mere adolescent phenomenon. It is condemned because the particular form into which the experience was forced was artificial and meaningless. In saying this we are far from denying to adolescence depth of character and genuine religious convictions.

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As regards the general tendency of the adolescent to develop by starts, to have sudden awakenings to hitherto unappreciated values, we find evidences in various directions. Many boys and girls then first become suddenly conscious of the meaning of certain studies. After long periods of grinding in mathematics, language, literature, music, etc., the subjects suddenly clear up. We have instances of rapid changes from a pessimistic to an optimistic attitude, clearly attributable to a simple social suggestion. There are many cases of the sudden appearance of the social consciousness. One young man who had been unusually cruel to animals in his boyhood suddenly lost all desire to be cruel by the reading of *Uncle Tom's Cabin.* This is an excellent illustration of how an attitude that is already probably almost outgrown may be suddenly cast aside under the influence of some strong suggestion.[1]

The rather dogmatic conclusion from this discussion is that *the adolescent is far better off if his equilibrium can be sustained by social suggestion rather than overturned by it.* It is likely that a certain amount of introspection is normal,

[1]This paragraph gives a very summary treatment of a topic on which I have collected a good deal of original material and which I hope to treat adequately in a work in preparation on the *Psychology of the Religious Consciousness.*

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but it may easily assume abnormal phases. Much despondency and so-called sense of sin is no doubt due to purely physical causes. The ideal surroundings for the adolescent are those that are especially cheerful in tone and that furnish the stimulus to abundant and vigorous physical exercise. He should have his attention turned outwardly as much as possible, cultivating interests in active, overt enterprises with other people, and avoiding the giving of attention to his own physical and mental states. A perfectly normal impulse that appears here definitely for the first time, namely, the altruistic, or desire to help others, may afford a good channel for diverting attention from one's own states.

The points in this chapter are all of the greatest importance to the teacher. Particularly should she endeavor to emphasize the youth's active interests, and, by every means in her power, study to furnish normal and helpful suggestions that will gradually define his vague impulses after social values. If the unbounded enthusiasm of this period can be co-ordinated with useful lines of work and investigation, it continues to be a wellspring of energy throughout life. If, however, it fails in the time of its aspiration to get a definite and satisfactory expression, it only too easily evaporates, leaving the youth in a dull,

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prosaic world, disappointed at the unreality of his dreams and without the desire to try again. To how many is the enthusiasm of adolescence only a dream! Let the teacher remember, then, that the bent given in these years to the emotions and habits of mind is likely to be permanent; and happy is that teacher who can do something toward rendering permanent in her boys and girls the freshness and elasticity of this spring-time of life.

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CHAPTER XVI

EDUCATIONAL IMPLICATIONS

We can here attempt to point out only a few of the practical implications of the view of mental development here presented. Let us first note its significance in the teacher's preparation for work.

Every theory of mental processes must have some relation to the work, but the type of theory most needed is the one that will give her the clearest practical understanding of the minds with which she deals and of the nature of the educative process in which she is working with them as their teacher. All our theories are largely the outgrowth of practical conditions. We construct them to fit the necessities of practice as we conceive them. It is thus inevitable that the various types of educational doctrine will tend to have their appropriate interpretations of the mental life. But not entirely so, for while educational practice is constantly in process of reconstruction, it too often happens that the basis on which the practice rests is less yielding. A theory once constructed is not as readily susceptible to change as are practical attitudes. Hence it is that, while educational

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thought has made great strides in recent years, the psychology underlying the teaching process has remained largely of an older type. At any rate, it has never been thoroughly reconstructed.

The type of psychology here presented, it is believed, is implied in the best educational theory of today, but the kind of psychology in which we train our teachers belongs to an educational attitude that we are fast leaving behind. In the first chapter we criticised the idea that the psychology of the adult mind was adequate for the needs of the teacher of children. We do not, of course, mean to imply that a thorough understanding of adult mental processes is not necessarily preliminary to the proper appreciation of the mental life of the child, but that it should be studied as a preparation for the psychology of the child, which more intimately concerns the teacher. The need we here emphasize is, of course, felt, and is usually met by a little child-study. But this has always remained more or less empirical and decidedly subsidiary to the more serious psychology. It has fallen into disrepute because it is so ill-organized that it really seems to give pedagogic students little that is tangible and fundamental.

We have assumed in the preceding chapters that the best preliminary step toward arousing

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a permanent interest in the psychology of the child would be to present it in an organized and consistent form. We have avoided making our pages encyclopædic résumés of innumerable "facts," trying rather to outline the method of development and the meaning, in terms of the child's own consciousness, of what he does, and sees, and feels.

It is recognized, of course, that no psychology of individual development is an adequate basis for educational theory; but it is believed that the psychology that interprets the growth of mental processes, and that with reference to their place in the individual's entire experience with all its social activities and interactions, is more really what is needed by the teacher than a description of mental contents as existences in and of themselves.

Educational psychology is essentially a social psychology, the psychology of the interaction of mind with mind. It will surely be an advance toward such a conception of mental life to try to understand, in terms of his entire life, whatever the child does and thinks. That is the more adequately we can determine the character of the child's experience, the nature of his own point of view, what things mean to him, so much the more adequately can our minds interact with his

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in the educative process. This sort of a statement of mental development is a necessary step toward the psychology of the interplay of minds that the teacher must some day study. The full meaning of a single individual's experience cannot be stated except in terms of his interactions with others. Hence every attempt to interpret the child, to find what his activities mean to him, gives us a better knowledge of the personalities involved in the interaction of mind with mind, and hence prepares the way for a valuable social, and at the same time educational, psychology.

The type of educational theory in which a training in adult psychology is deemed sufficient for the teacher lays the emphasis on the transfer of knowledge rather than on the enrichment of experience. Since, as it is conceived, it is the teacher's business to mediate the transfer of certain quantities of knowledge to the child, she must know the machinery by which it can be acquired. Hence great stress is laid on a clear understanding of such processes as perception, memory, imagination, reasoning, etc., while the other forms of mental activity are relatively neglected. The intellectual functions are studied because, as it is conceived, by knowing the laws of their working, the process of knowledge trans-

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fer can be facilitated and its results made more permanent. Naturally, with such a conception of the educative process, the best psychology for the teacher would be that which described these "mental fingers" in their state of greatest perfection in certain types of adult consciousness. Such an attitude tends to set up mental functions, or "faculties," as they should more properly be called on such a theory, as existing in and of themselves.

Herbart's five formal steps[1] in the learning process furnish a good illustration of this attitude. They are conceived as the necessary steps in the acquisition of knowledge, and the teacher studies them in every form and aspect, because it is her task "to convey information" and it is of vital importance that she know the steps in such a process. The theory of the formal steps is an advance beyond the theory of faculties for obtaining knowledge, in that it recognizes that the obtaining of knowledge is a process of development. Ultimately, however, it is really very little different from the older theory. It tends to crystallize all the aspects of experience around a process of getting knowledge, which is still conceived as of primary importance. It is just because the growth of experience is not synony-

[1]For an explanation of these formal steps see McMurry's *Method of the Recitation.* Macmillan Co., 1902.

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mous with the acquisition of knowledge that these five formal steps do not themselves represent the true process of obtaining knowledge. No theory of experience can be completely expressed in terms of the knowledge-process.

This is not the place to criticise in detail this particular aspect of the Herbartian doctrine. It is sufficient to say that the steps are a retrospective analysis of the development of experience based on the assumption of its being a process of acquiring knowledge. It assumes, on the one hand, that the child is equipped with a differentiated experience, that is, with a set of intellectual tools; and, on the other hand, that there is a mass of information that the child more or less consciously realizes that he is to put forth effort to obtain. The five formal steps are conceived as the stages in the transformation of this external knowledge by means of the intellectual tools. There is no development of experience emphasized by such a theory. What it assumes is simply a developed experience giving itself content by taking in knowledge. The existence of the mental tools has no organic relation to the process of getting knowledge. They were there before the process began, and they continue to exist after it is ended. This ignores the functional relation between the processes of experience and its development, or

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differentiation. It admits that they further the development of experience, but it does not account for them in terms of this process of development.

To take a specific point, we may say that there is, in a developing consciousness, really no such thing as a presentation of new material, as is assumed by Herbart. Such a description is from the observer's standpoint exclusively. The point of contact between the new and the old is never thus drawn in the child's own experience. For the child the point of growth is the point of stress in an old experience found to be inadequate in a new situation. The new does not come as something *new,* but as a *means* for defining and rendering more adequate the old experience.

In fine, Herbart's steps are the result of a logical analysis of the framework of knowledge. They do not express what the obtaining of knowledge means in the child's experience. We hold that each step in the process of definition must be stated with reference to its possible meaning to the child at the time of its occurrence. We do not have a differentiated experience, on the one hand, and a recognized body of values, or knowledge, on the other, but rather simply an undifferentiated experience and an impulse to define it. The undifferentiated experience includes both the child with his unorganized consciousness and the

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environment with its unrealized values. The Herbartian scheme is false for the child, and the only type of experience in which it even approximates the truth is the one in which the division of mental labor has been thoroughly carried out, as in the case of the mature scientific student. Even here, however, its application is questionable.

This adult psychology is also the logical groundwork for a theory of education in which the aim is the harmonious development of the capacities of the child. If such is the true aim of education, one of the essentials in the teacher's training is to get a good conception of the various mental capacities in their most complete development. For such, she manifestly must go to the psychology of the mature consciousness. Even if it is said that the aim is the all-around development of the individual, the emphasis seemingly being laid on no special faculties, the tendency is still almost inevitable to give the aim concrete detail by breaking the individual up into special powers. That is to say, there is really no way to tell what an all-around development of the individual is except in terms of his activity, which must itself be analyzed either in terms of itself or in terms of the situation in which it occurs. If the first alternative is chosen, the tendency is

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to break it up into powers, or faculties. The other alternative seems to be the only one by which we can avoid such a procedure, and in taking this alternative we are to all intents and purposes rejecting our definition of education as an all-around development.

The acquisition of knowledge is only one aspect of a broader process. Hence it cannot be stated in itself, but only with reference to its setting, or meaning in this whole of experience. By failing to recognize this fact the older theory of education confined the teacher's interest in experience to that special modification of it that arises only under certain conditions. We thus expect the description of the specialized mental mechanism of the adult to meet the teacher's requirement for psychology. Let us try to think what questions a teacher needs to ask about her pupils. One of them surely is: What can or does this, that we are doing, mean to *these* children? *When* and *why* do my children reason, remember, etc.? The questions are not so much those regarding *what* the processes are by which knowledge is acquired, as under what circumstances do these processes begin to operate and what function do they serve in the continuation of experience. To ask these questions shifts the center of interest from specialized aspects of con-

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sciousness to experience as a whole. It is upon the nature of experience in its entirety, the way in which it unfolds, and its connection with the necessities of action that a true theory of education must be based. The psychological bases of such a theory must be functional. For solving immediate problems the teacher has no special interest in knowing *what* the mental contents are, or even *how* they work. When they are present they work without any assistance from her. According to the functional psychology their very presence means, by definition, that they are doing something. Too often the teacher thinks of them as always present, but not always necessarily active. From the point of view here presented her most vital concern is to know under what circumstances they arise and what part they play in promoting further experience, because it is here she exerts her greatest influence as a teacher.

We now turn to the immediate pedagogical bearings of our genetic treatment of experience. There are two points that have come out in the body of our discussion, about which it will be convenient to center our practical deductions. About these two points the whole psychology of elementary education, in particular, centers. The first point is the undifferentiated character of the child's experience. The second is the imperfect

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organization of his experience with reference to the social whole within which he lives. In other words, the first point gives us the organization of the child; the second, the organization of his world.

There is a third point of great importance, but it is one common to the psychology of the adult as well as that of the child. It is this: Differentiations in experience occur with reference to the necessities of action. This has been one of our most fundamental propositions, but it is not a deduction from child-psychology alone. The modifications of adult experience occur after the same fashion, and it is from this point of view that we have maintained that adult psychology should be studied. But the first two points are the pre-eminent contributions of genetic psychology to elementary school work. In the case of even the third point there is this important difference between the child and the adult: The latter, in defining his experience in any special direction, has as a base of supplies a previously well-organized experience. This makes his *re*adjustment of himself in a difficulty or his *ad*justment of himself to novel situations a comparatively easy matter. The child has no such organized background to work from; hence his progress is slower than that of a mature mind, and his

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activities are modified because of this lack of an organization in other directions as well as in the particular one in which he is striving. Hence, even this third point must be taken up in the case of the child as well as in that of the adult. This fundamental principle of all development of mind is really the more general statement of the first two points mentioned as the specific contribution of genetic psychology to the work of the teacher. They may be said to be the consequences of the fact that experience differentiates as a function of activity. The third point, which states the general principle of all mental growth, involves these two specific problems, or takes these two specific aspects when it is applied to the child.

As we have said, the nature of the process of education depends upon the nature of experience; that is, upon the nature of the mind to be educated, its method of growth, and its relation to the world. It is more than a *mere* transfer of knowledge from one mind to another. It is a process that goes on through any influence that specializes the child's reactions and differentiates his world, and that at the same time increases his control over his own development.

Let us turn now to a few specific conclusions. The process of defining experience in the child must be through entire reactions. If it is ever

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allowable to speak of training the memory, the feelings, the will, in an adult, it is scarcely so in the child. If we do so, we must at least remember that our statement is an abstraction without the meaning in the child's experience that it has in the adult's. Our discussion has emphasized the fact that the child reacts as a whole, and any theory of training, in isolation, his senses or his motor centers, for example, is a one-sided one simply because the child does not grow in that way. It may be that attempts at training, based on such a theory, have their effect, but it is a distorted one and not real development. Whatever the child really gets comes to him in a setting of activity, and it means, not merely an increase in intellectual or emotional or motor ability, but an increase in all combined.

The mental processes are inextricably combined with one another and normally develop only in conjunction with the increasing complexity of overt action. If there is apparent growth in perception without a concomitant or subsequent development of the other processes and a correspondingly increased efficiency in action, we may always be sure that there is little real value in the supposed growth. The very fact of its standing by itself, out of definite co-ordination with the rest of the processes of experience, deprives it of

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all means of being of service to the child. The only value any function can possibly have must be worked out in a common process. Since the normal growth of any one element of consciousness is necessarily co-ordinated with that of other elements, we can see that not only is an element left in the air, if developed by itself, but also that it simply cannot become in its isolation what it would in its natural setting.

As the child advances through the school years, it becomes increasingly possible to develop certain aspects of his experience to the apparent exclusion of others. It, however, is only because his experience has become so complex that there is this seeming isolation in its development. It really holds here, as in the earlier years, that intellectual or emotional growth, to be of a serviceable nature, must in the end react on other aspects of experience, and every scheme of education must provide for the easy transition from the school studies to the demands of practical life.

The second specific, practical bearing of our discussion is one that arises from the changing organization of the child's world. This has been well illustrated in the chapters on interests. A thorough understanding of the development of the child's world is a prime essential to any scheme of education. In a world of a given

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degree of organization the child has corresponding functional adjustments to make. For a teacher who has some appreciation of this fact the problem of how to awaken the child's interests ceases to be ominous. He already has interests; they lie in the lines of activity that are functionally connected with his stage of growth. The real problem is not how to arouse his interests, but how to utilize them. Only as this problem is properly met can the activity of one period make adequate preparation for the activity of the next. Each period has its peculiar problems of adjustment; and the influences that are most helpful, or the most educative, to the child are those that help him define himself with reference to the problems of his various periods of growth.

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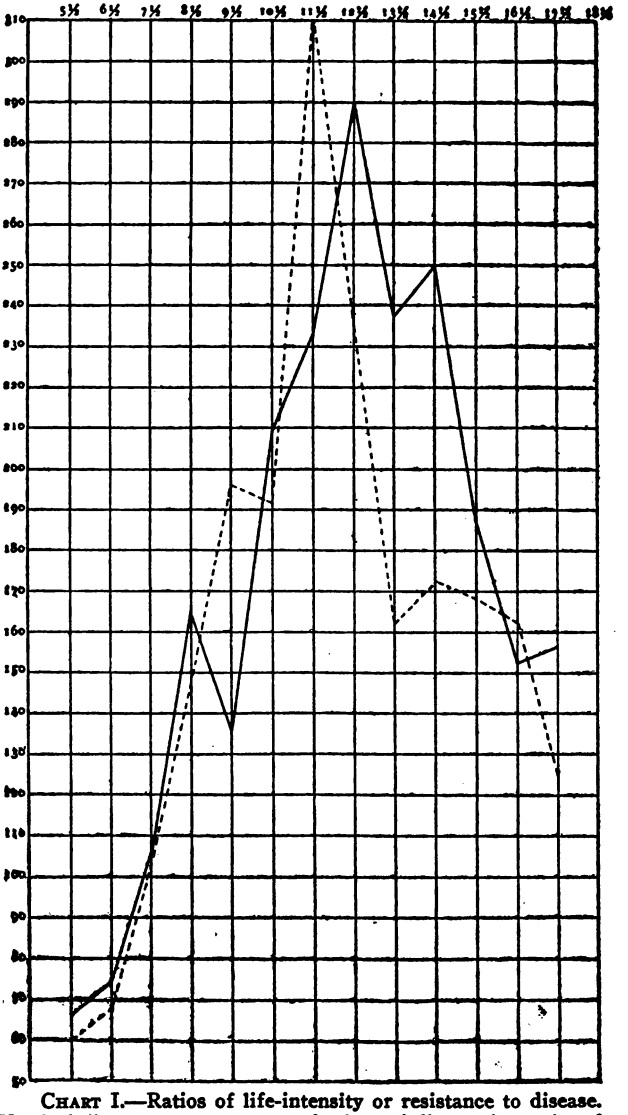

CHART I.—Ratios of life-intensity or resistance to disease. Vertical lines represent ages; horizontal lines, the ratio of those living to those dying; solid line, boys; dotted line, girls. (Adapted from BURK's monograph on *Growth of Children in Height and Weight.*)

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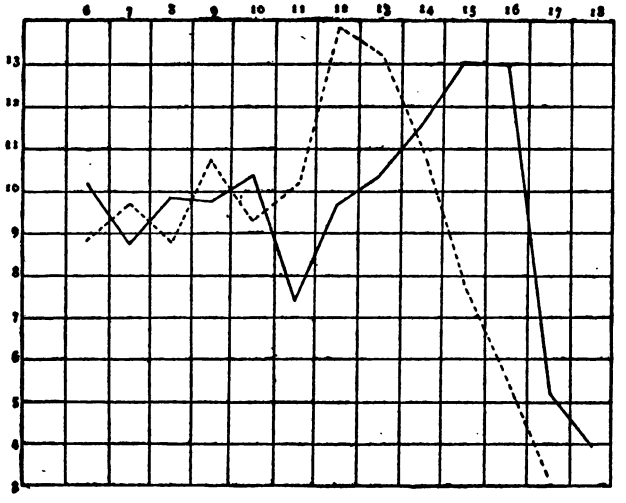

CHART II.—Annual percentage of increase in weight. Numbers at top refer to ages; those at side, to percentages; solid line, boys; dotted line, girls. (Adapted from Burk.)

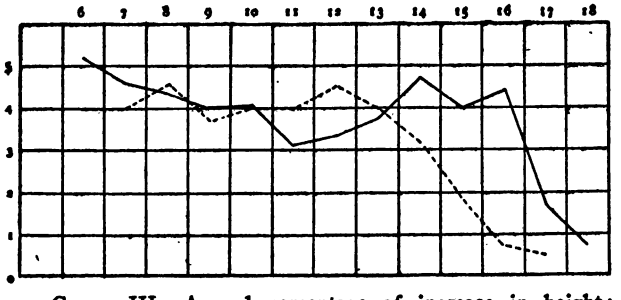

CHART III.—Annual percentage of increase in height; percentages to left. (Adapted from Burk. Charts II and III based on measurement of 13,691 boys and 10,904 girls.)

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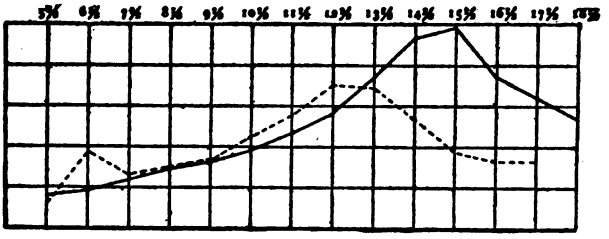

CHART IV.—Absolute annual variation in centimeters from the standard in height and weight. Read upward by fives.

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